



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

December 21, 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: American Hauler / 039-20320-00616
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

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 from 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
FNPER-AM.dot 9/16/03



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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December 21, 2004

Mr. Steve Schmitt
American Hauler
1502 Mishawaka Avenue
Elkhart, IN 46514

Dear Mr. Schmitt:

Re: Exempt Construction and Operation Status,
039-20320-00616

The application for American Hauler, received on October 28, 2004, has been reviewed. Based on the data provided and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary towable storage trailer manufacturing plant is classified as exempt from air pollution permit requirements:

- (a) One (1) spray booth, constructed on 2/2/2004, for surface coating of trailer frames, with a maximum throughput of 1.0 trailer frame per hour, equipped with two (2) air assist airless spray guns for applying an undercoating (spray gun G1) and an anti-skid coating (spray gun G2), controlled by dry filters, and exhausting through stacks E1, E2, and E3.
- (b) Fourteen (14) natural gas-fired space heaters, each rated at 0.15 MMBtu/hr;
- (c) Two (2) metal inert gas (MIG) welders with a maximum daily wire usage rate of 4.1 pounds of wire per day of carbon steel wire (approximately 0.34 pounds of wire per trailer frame);
- (d) Two (2) hand held grinding machines.

The following condition shall be applicable:

- (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:
 - (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.
- (2) Any change or modification that would increase actual emissions of Volatile Organic Compounds (VOCs) to 15 pounds per day or greater or that would increase potential emissions of a single hazardous air pollutant (HAP) or combination of HAPs to 10 and 25 tons per year or greater, respectively, shall require prior approval of the Office of Air Quality

This exemption is the first air approval issued to this source.

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.

Sincerely,

Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

NCB

cc: File - Elkhart County
Elkhart County Health Department
IDEM Northern Regional Office
Air Compliance - Paul Karkiewicz
Permit Tracking
Compliance Data Section

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: American Hauler
Source Location: 1502 Mishawaka Avenue, Elkhart, IN 46514
County: Elkhart
SIC Code: 3715 (Manufacturing of Truck Trailers)
Application No.: 039-20320-00616
Reviewer: Nathan C. Bell

On October 28, 2004, the Office of Air Quality (OAQ) received an application from American Hauler relating to the operation of a stationary towable storage trailer manufacturing plant.

Permitted Emission Units and Pollution Control Equipment

There are no permitted emission units at this source during this review process.

Unpermitted Emission Units and Pollution Control Equipment

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

- (a) One (1) spray booth, constructed on 2/2/2004, for surface coating of trailer frames, with a maximum throughput of 1.0 trailer frame per hour, equipped with two (2) air assist airless spray guns for applying an undercoating (spray gun G1) and an anti-skid coating (spray gun G2), controlled by dry filters, and exhausting through stacks E1, E2, and E3.
- (b) Fourteen (14) natural gas-fired space heaters, each rated at 0.15 MMBtu/hr;
- (c) Two (2) metal inert gas (MIG) welders with a maximum daily wire usage rate of 4.1 pounds of wire per day of carbon steel wire (approximately 0.34 pounds of wire per trailer frame);
- (d) Two (2) hand held grinding machines.

Existing Approvals

No previous air approvals have been issued to this source.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Outlet Dimensions (ft)	Flow Rate (acfm)	Temperature (°F)
E1	Surface Coating Spray Booth	25	3' x 3'	3,000	75
E2	Surface Coating Spray Booth	25	3' x 3'	3,000	75
E3	Surface Coating Spray Booth	25	3' x 3'	3,000	75

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 October 28, 2004. Additional information was provided by email on December 14, 2004 and December 15, 2004.

Emission Calculations

See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 4).

For the two (2) hand held grinding machines it is assumed that the potential emissions of all regulated criteria pollutants and hazardous air pollutants (HAPs) are negligible. Consequently, each of the two (2) hand held grinding machines is exempt from the requirements of 326 IAC 6-3.

Potential To Emit

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	1.97
PM-10	2.02
SO ₂	0.01
NO _x	0.92
VOC	1.08
CO	0.77

HAP's	Potential To Emit (tons/year)
Glycol Ethers	0.23
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
n-Hexane	0.02
Toluene	negligible
Lead	negligible
Cadmium	negligible
Chromium	negligible
Cobalt	negligible
Manganese	negligible
Nickel	negligible
TOTAL HAPs	0.24

- (a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.
- (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 subject to the provisions of 326 IAC 2-1.1-3.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM10	Attainment or Unclassifiable
SO ₂	Attainment
NO ₂	Attainment or Unclassifiable
1-Hour Ozone	Maintenance Attainment
8-Hour Ozone	Basic Nonattainment
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. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) Elkhart County has been classified as attainment or unclassifiable for all the other regulated 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 and Emission Offset 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	0.12
PM-10	0.18
SO ₂	0.01
NO _x	0.92
VOC	1.08
CO	0.77
Worst Single HAP	0.23
Combination HAPs	0.24

- (a) This new 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.
- (b) This new source is not a Emission Offset major stationary source because no regulated nonattainment pollutant is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset 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 status is based on the potential to emit calculations of the source (see Appendix A).

Federal Rule Applicability

- (a) The source does not manufacture automobiles or light duty trucks. Therefore, the New Source Performance Standards for Automobile and Light Duty Truck Surface Coating Operations (40 CFR Part 60.390 - 60.398, Subpart MM) are not applicable to this source.
- (b) 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 space heaters 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).
- (c) This source is not subject to the requirements of the following New Source Performance Standards (NSPS), because the natural gas-fired space heaters 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)
- (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 IIII, Automobiles and Light-Duty Trucks Surface Coating, because this source is not a major source of HAPs as defined in 40 CFR 63.2 and does not manufacture automobiles or light duty trucks.
 - (f) 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.
 - (g) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63, Subpart PPPP, Surface Coating of Plastic Parts and Products, because the source is not a major source of HAPs as defined in 40 CFR 63.2 and surface coats metal trailer frames.
 - (h) The natural gas-fired space heaters 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 natural gas-fired space heaters 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.
 - (i) 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 space heaters are not considered hazardous waste incinerators and the source is not a major source of HAPs.
 - (j) 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 was 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 2-3 (Emission Offset)

The requirements of 326 IAC 2-3 (Emission Offset) apply to major sources or major modifications constructed in an area designated as non-attainment. The uncontrolled potential to emit of VOC and NOx are each less than 100 tons per year. When this area is designated by the state rules, the requirements of 326 IAC 2-3 (Emission Offset) will not be 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 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in Elkhart County, it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, and it does not emit lead into the ambient air at levels equal to or greater than five (5) 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 spray booth 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 spray booth is not subject to the requirements of 326 IAC 8-2, because this facility, which was constructed after July 1, 1990, has actual VOC emissions of less than fifteen (15) pounds per day before add-on controls.

State Rule Applicability – Natural Gas Combustion Sources

326 IAC 4-2-2 (Incinerators)

The natural gas-fired space heaters 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 space heaters 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 space heaters 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 space heaters 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.

Conclusion

The operation of these facilities shall be subject to the conditions of the attached exemption, No 039-20320-00616.

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

Company Name: American Hauler
Address City IN Zip: 1502 Mishawaka Avenue, IN 46514
Permit Number: 039-20320
Pit ID: 039-00616
Reviewer: Nathan C. Bell
Date: December 16, 2004

Uncontrolled Potential Emissions (tons/year)					
Emissions Generating Activity					
Category	Pollutant	Paint Booth	Natural Gas Combustion	Welding	TOTAL
Criteria Pollutants	PM	1.95	0.02	0.01	1.97
	PM10	1.95	0.07	0.01	2.02
	SO2		0.01		0.01
	NOx		0.92		0.92
	VOC	1.03	0.05		1.08
	CO		0.77		0.77
Hazardous Air Pollutants	Glycol Ethers	0.23			0.23
	Benzene		1.9E-05		1.9E-05
	Dichlorobenzene		1.1E-05		1.1E-05
	Formaldehyde		6.9E-04		6.9E-04
	n-Hexane		0.02		0.02
	Toluene		3.1E-05		3.1E-05
	Lead		4.6E-06		4.6E-06
	Cadmium		1.0E-05		1.0E-05
	Chromium		1.3E-05	1.5E-06	1.4E-05
	Cobalt			1.5E-06	1.5E-06
	Manganese		3.5E-06	4.8E-04	4.8E-04
	Nickel		1.9E-05	1.5E-06	2.1E-05
	Totals	0.23	0.02	4.8E-04	0.24
				Worst Single HAP	0.23

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

Controlled Potential Emissions (tons/year)					
Emissions Generating Activity					
Category	Pollutant	Paint Booth	Natural Gas Combustion	Welding	TOTAL
Criteria Pollutants	PM	0.10	0.02	0.01	0.12
	PM10	0.10	0.07	0.01	0.18
	SO2		0.01		0.01
	NOx		0.92		0.92
	VOC	1.03	0.05		1.08
	CO		0.77		0.77
Hazardous Air Pollutants	Glycol Ethers	0.23			0.23
	Benzene		1.9E-05		1.9E-05
	Dichlorobenzene		1.1E-05		1.1E-05
	Formaldehyde		6.9E-04		6.9E-04
	n-Hexane		0.02		0.02
	Toluene		3.1E-05		3.1E-05
	Lead		4.6E-06		4.6E-06
	Cadmium		1.0E-05		1.0E-05
	Chromium		1.3E-05	1.5E-06	1.4E-05
	Cobalt			1.5E-06	1.5E-06
	Manganese		3.5E-06	4.8E-04	4.8E-04
	Nickel		1.9E-05	1.5E-06	2.1E-05
	Totals	0.23	0.02	4.8E-04	0.24
				Worst Single HAP	0.23

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

**Appendix A: Emissions Calculations
VOCs, Particulate, HAPs
From Surface Coating Operations
Spray Booth**

**Company Name: American Hauler
Address City IN Zip: 1502 Mishawaka Avenue, IN 46514
Permit Number: 039-20320
Plt ID: 039-00616
Reviewer: Nathan C. Bell
Date: December 16, 2004**

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

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)**	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)**	Gal of Mat. (gal/unit)	Maximum (unit/hr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (lbs/hr)	Potential VOC (lbs/day)	Potential VOC (tons/yr)	Potential Particulate Matter (lb/hr)	Potential Particulate Matter (lb/day)	Potential Particulate Matter (tons/yr)	lb VOC/gal solids	Transfer Efficiency
ZPG-20060B-2 Undercoating	11.52	22.0%	15.0%	7.0%	16.0%	62.0%	0.10	1.0	0.96	0.81	0.08	1.94	0.35	0.22	5.39	0.98	1.30	75%
Vorastar HA/HB Coating*	10.34	15.0%	0.0%	15.0%	0.0%	85.0%	0.10	1.0	1.55	1.55	0.16	3.72	0.68	0.22	5.27	0.96	1.82	75%

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * (Weight % Organics) / (1-Volume % water)

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

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day) * (365 days/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (1 - Weight % Volatiles) * (1 - Transfer efficiency) * (24 hr/day) * (365 days/yr) * (1 ton/2000 lbs)

Pounds VOC per Gallon of Solids = (Density (lbs/gal) * (Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Totals	0.24	5.66	1.03	0.44	10.66	1.95
Dry Filter Control Efficiency					95.0%	
Particulate Matter Emissions after controls (lb/day)					0.53	
Particulate Matter Emissions after controls (ton/yr)					0.10	

* Polyurethane is formed in a two component system by mixing Vorastar HA 6086 Polyol with Vorastar HB 6521 Isocyanate. Vorastar HA functions as the "prepolymer", which is a polyurethane precursor made by reacting polyol with diisocyanate. The prepolymer is an isocyanate terminated intermediate product, which has little or no free diisocyanate monomer and more controllable reactivity. Vorastar HB 6086 Polyol functions as a polyol "chain extender" or curative. When the chain extender is mixed with the prepolymer, the molecules react through hydrogen transfer and cross linking, and the prepolymer molecules are "zipped-up" forming the polyurethane polymer.

** For this TSD, it is assumed that, during application of the Vorastar HA/HB Coating, 15% of the coating is volatile and emitted as volatile organic compounds (VOCs). The remainder of the coating is assumed to cure and become polyuretha

Hazardous Air Pollutants (HAPs)

Material	Density (Lb/Gal)	Maximum Paint Usage (gal/hr)	Weight % Glycol Ethers	Potential Glycol Ethers Emissions (ton/yr)
Vorastar HA/HB Coating***	10.34	0.10	5%	0.23

TOTAL HAPs 0.23 ton/yr

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Maximum Paint Usage (gal/hr) * Weight % HAP * 24 hr/day * 365 days/yr * 1 ton/2000 lbs

Based on the information provided by the source, ZPG-20060B-2 Undercoating contains no HAPs

*** For this TSD, it is assumed that the Vorastar HA/HB Coating has a diethylene glycol content of 5% by weight and, during application of the Vorastar HA/HB Coating, diethylene glycol is emitted as a VOC.

Note: Glycol Ethers consists of Diethylene Glycol

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

Company Name: American Hauler
Address City IN Zip: 1502 Mishawaka Avenue, IN 46514
Permit Number: 039-20320
Plt ID: 039-00616
Reviewer: Nathan C. Bell
Date: December 16, 2004

Criteria Pollutants

Pollutant					PM*	PM10*	SO2	NOx**	VOC	CO
Emission Factor (lb/MMCF)					1.9	7.6	0.6	100.0	5.5	84.0
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
Space Heaters	14	0.15	2	18.4	0.017	0.070	0.006	0.9	0.051	0.8
Totals		14	2.1	18.4	0.02	0.07	0.01	0.9	0.05	0.8

Hazardous Air Pollutants (HAPs)

Pollutant	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni	
Emission Factor (lb/MMCF)	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	Potential Emission tons/yr										
	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni	
Steam Boiler B-200	1.9E-05	1.1E-05	6.9E-04	1.7E-02	3.1E-05	4.6E-06	1.0E-05	1.3E-05	3.5E-06	1.9E-05	
Totals		1.9E-05	1.1E-05	6.9E-04	1.7E-02	3.1E-05	4.6E-06	1.0E-05	1.3E-05	3.5E-06	1.9E-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

Potential Throughput (MMCF) for Emergency Generators (<500 hrs/yr) = Combined Total Heat Input Capacity (MMBtu/hr) * 500 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 Cr = Chromium

Pb = Lead

Cd = Cadmium

Mn = Manganese

Ni = Nickel

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

**Company Name: American Hauler
Address City IN Zip: 1502 Mishawaka Avenue, IN 46514
Permit Number: 039-20320
Plt ID: 039-00616
Reviewer: Nathan C. Bell
Date: December 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	Cr	Co	Mn	Ni	PM = PM10	Cr	Co	Mn	Ni	
WELDING															
Gas Metal Arc Welding (ER70S)	0.171	4.10	2	2,993	5.4E-03	1.0E-06	1.0E-06	3.2E-04	1.0E-06	1.8E-03	3.4E-07	3.4E-07	1.1E-04	3.4E-07	1.1E-04

Abbreviations

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

Total Potential Emissions lbs/hr	1.8E-03	3.4E-07	3.4E-07	1.1E-04	3.4E-07	1.1E-04
Total Potential Emissions lbs/day	4.4E-02	8.2E-06	8.2E-06	2.6E-03	8.2E-06	2.6E-03
Total Potential Emissions tons/year	8.1E-03	1.5E-06	1.5E-06	4.8E-04	1.5E-06	4.8E-04

METHODOLOGY

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