



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: December 2, 2005
RE: ABTREX Industries, Inc. / 141-21904-00181
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 1/10/05



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

Mitchell E. Daniels, Jr.
Governor

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Commissioner

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December 2, 2005

Mr. Doug Hardy
ABTREX Industries, Inc.
59640 Market Street
South Bend, IN 46614

Re: Registered Construction and Operation Status,
141-21904-00181

Dear Mr. Hardy:

The application from ABTREX Industries, Inc., received on October 24, 2005, 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 tank construction and repair source, located at 59640 Market Street, South Bend, IN 46614, is classified as registered:

- (a) one (1) fiberglass operation, designated as FG-1, constructed in 1983, with a maximum capacity of 11.58 pounds of fiberglass parts per hour, consisting of one (1) resin chop gun, constructed in 2002, utilizing low pressure, non-atomizing flow coating application, with cleanup operations utilizing hand or soak application of a non-halogenated organic solvent, and venting to the indoors;
- (b) one (1) welding and thermal cutting operation, designated as WLD, constructed in 1983, for fabricating steel tanks at a maximum capacity of 0.1 steel tanks per hour (140 pounds of steel per hour), venting to the indoors, and consisting of the following emission units:
 - (1) five (5) stick welding stations, designated as WLD1 through WLD5, constructed in 1983, each with a maximum electrode usage rate of 0.58 pounds of electrode stick per hour (Electrode Type E7024);
 - (2) three (3) metal inert gas (MIG) welding stations, designated as WLD6 through WLD8, constructed in 1983, each with a maximum wire usage rate of 1.5 pounds of wire per hour (GMAW Wire Type E70S);
 - (3) two (2) oxyacetylene/electric arc flame cutting stations, constructed in 1983, each with a maximum metal thickness cut of 1.0 inch and a maximum metal cutting rate of 12 inches per minute;
- (c) one (1) abrasive mechanical blaster, designated as SB-1, constructed in 1983, using a coal slag blasting media with dust suppressant, with a maximum throughput of 0.1 steel tanks per hour (140 pounds of steel per hour), with particulate emissions controlled by one (1) baghouse dust collector, designated as DC-1, constructed in 2005, with a control efficiency of 99% and a maximum outlet grain loading of less than or equal to 0.00077 grain per actual cubic foot, when operated at a maximum gas flow rate of four thousand (4,000) actual cubic feet per minute (acfm), and exhausting through stack DC-1;
- (d) one (1) adhesive preparation and surface coating operation, designated as AP-1, constructed in 1983, including manual application of adhesives to steel tanks with a maximum capacity of 0.29 pounds of adhesive per hour, venting to the indoors;

- (e) one (1) surface coating and rubber lining installation operation, designated as RP-1, constructed in 1983, including manual application of adhesives and primer to steel tanks and rubber tank linings, and installation of rubber linings to tanks, with a maximum capacity of 0.1 steel tanks per hour (177 pounds per hour), venting to the indoors;
- (f) one (1) PVC/polyethylene tank part assembly operation, designated as PVCP-1, constructed in 1983, including manual application of adhesive and primer to metal and PVC/polyethylene parts, with a maximum capacity of 100 pounds of metal tank components per hour and 50 pounds of PVC/polyethylene parts per hour, and venting to the indoors;
- (g) one (1) natural gas-fired heat treat oven, constructed in 1983, operated outdoors and used to bake on surface coatings, rated at 1.0 MMBtu/hr, venting to the atmosphere;
- (h) one (1) natural gas-fired boiler, designated as B1, constructed in 1983, used to generate steam for vulcanizing rubber linings, rated at 4.5 MMBtu/hr, exhausting through stack B1;
- (i) four (4) natural gas-fired heaters, designated as H1 through H4, constructed in 1983, each rated at 0.35 MMBtu/hr, exhausting through stacks H1 through H4, respectively;
- (j) one (1) natural gas-fired heater, designated as H5, constructed in 1983, rated at 0.2 MMBtu/hr, exhausting through stack H5;
- (k) one (1) natural gas-fired heater, designated as H6, constructed in 1983, rated at 0.3 MMBtu/hr, exhausting through stack H6;
- (l) one (1) natural gas-fired heater, designated as H7, constructed in 1983, rated at 0.225 MMBtu/hr, exhausting through stack H7;
- (m) one (1) natural gas-fired heater, designated as H8, constructed in 1983, rated at 0.1 MMBtu/hr, exhausting through stack H8;
- (n) two (2) natural gas-fired water heaters, designated as W1 and W2, constructed in 1983, each rated at 0.04 MMBtu/hr, exhausting through stacks W1 and W2, respectively;
- (o) one (1) natural gas-fired air makeup unit, designated as A1, constructed in 1983, rated at 2.0 MMBtu/hr, venting to the indoors;
- (p) Unpaved roads and parking lots with public access;

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

- (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) Pursuant to 326 IAC 6-3-2(e)(2) (Particulate Emission Limitations for Manufacturing Processes), the particulate emissions from SB-1 shall not exceed 0.89 pounds per hour based on a process weight rate equal to 0.10 tons of abrasive per hour (203.3 pounds of abrasive per hour). The allowable rate of emission 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 from the corrugation line are estimated to be 0.66 pounds per hour, which is less than the 326 IAC 6-3-2 allowable hourly rate of 0.89 pounds per hour. Therefore, compliance with 326 IAC 6-3 is expected.

- (d) Pursuant to 326 IAC 6-3-2(d) (Particulate Emission Limitations for Manufacturing Processes), particulate from surface coating booth SC-1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

- (e) Pursuant to 326 IAC 6-2-2(c) (Particulate Emission Limitations for Sources of Indirect Heating), the natural gas-fired steam boiler has a particulate matter emission limitation of 0.6 pounds per million British thermal units heat input (lb/MMBtu).

This registration is 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
Indianapolis, IN 46204**

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, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46206, at 317-234-3350 or at 1-800-451-6027 (ext 43350).

Sincerely,

Origin signed by

Nysa L. James, Section Chief
Permits Branch
Office of Air Quality

ncb

cc: File - St. Joseph County
St. Joseph County Health Department
IDEM Northern Regional Office
Air Compliance - Rick Reynolds
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:	ABTREX Industries, Inc.
Address:	59640 Market Street
City:	South Bend, IN 46614
Authorized individual:	Doug Hardy
Phone #:	(574) 234-7773
Registration #:	141-21904-00181

I hereby certify that ABTREX Industries, Inc. is still in operation and is in compliance with the requirements of Registration 141-21904-00181.

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: ABTREX Industries, Inc.
Source Location: 59640 Market Street, South Bend, IN 46614
County: St. Joseph
SIC Code: 3443 (Manufacturing of Fabricated Plate Work)
Application No.: 141-21904-00181
Reviewer: Nathan C. Bell

On October 24, 2005, the Office of Air Quality (OAQ) received an application from ABTREX Industries, Inc. relating to the operation of a stationary tank construction and repair source.

Unpermitted Emission Units and Pollution Control Equipment

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

- (a) one (1) fiberglass operation, designated as FG-1, constructed in 1983, with a maximum capacity of 11.58 pounds of fiberglass parts per hour, consisting of one (1) resin chop gun, constructed in 2002, utilizing low pressure, non-atomizing flow coating application, with cleanup operations utilizing hand or soak application of a non-halogenated organic solvent, and venting to the indoors;
- (b) one (1) welding and thermal cutting operation, designated as WLD, constructed in 1983, for fabricating steel tanks at a maximum capacity of 0.1 steel tanks per hour (140 pounds of steel per hour), venting to the indoors, and consisting of the following emission units:
 - (1) five (5) stick welding stations, designated as WLD1 through WLD5, constructed in 1983, each with a maximum electrode usage rate of 0.58 pounds of electrode stick per hour (Electrode Type E7024);
 - (2) three (3) metal inert gas (MIG) welding stations, designated as WLD6 through WLD8, constructed in 1983, each with a maximum wire usage rate of 1.5 pounds of wire per hour (GMAW Wire Type E70S);
 - (3) two (2) oxyacetylene/electric arc flame cutting stations, constructed in 1983, each with a maximum metal thickness cut of 1.0 inch and a maximum metal cutting rate of 12 inches per minute;
- (c) one (1) abrasive mechanical blaster, designated as SB-1, constructed in 1983, using a coal slag blasting media with dust suppressant, with a maximum throughput of 0.1 steel tanks per hour (140 pounds of steel per hour), with particulate emissions controlled by one (1) baghouse dust collector, designated as DC-1, constructed in 2005, with a control efficiency of 99% and a maximum outlet grain loading of less than or equal to 0.00077 grain per actual cubic foot, when operated at a maximum gas flow rate of four thousand (4,000) actual cubic feet per minute (acfm), and exhausting through stack DC-1;

- (d) one (1) adhesive preparation and surface coating operation, designated as AP-1, constructed in 1983, including manual application of adhesives to steel tanks with a maximum capacity of 0.29 pounds of adhesive per hour, venting to the indoors;
- (e) one (1) surface coating and rubber lining installation operation, designated as RP-1, constructed in 1983, including manual application of adhesives and primer to steel tanks and rubber tank linings, and installation of rubber linings to tanks, with a maximum capacity of 0.1 steel tanks per hour (177 pounds per hour), venting to the indoors;
- (f) one (1) PVC/polyethylene tank part assembly operation, designated as PVCP-1, constructed in 1983, including manual application of adhesive and primer to metal and PVC/polyethylene parts, with a maximum capacity of 100 pounds of metal tank components per hour and 50 pounds of PVC/polyethylene parts per hour, and venting to the indoors;
- (g) one (1) natural gas-fired heat treat oven, constructed in 1983, operated outdoors and used to bake on surface coatings, rated at 1.0 MMBtu/hr, venting to the atmosphere;
- (h) one (1) natural gas-fired boiler, designated as B1, constructed in 1983, used to generate steam for vulcanizing rubber linings, rated at 4.5 MMBtu/hr, exhausting through stack B1;
- (i) four (4) natural gas-fired heaters, designated as H1 through H4, constructed in 1983, each rated at 0.35 MMBtu/hr, exhausting through stacks H1 through H4, respectively;
- (j) one (1) natural gas-fired heater, designated as H5, constructed in 1983, rated at 0.2 MMBtu/hr, exhausting through stack H5;
- (k) one (1) natural gas-fired heater, designated as H6, constructed in 1983, rated at 0.3 MMBtu/hr, exhausting through stack H6;
- (l) one (1) natural gas-fired heater, designated as H7, constructed in 1983, rated at 0.225 MMBtu/hr, exhausting through stack H7;
- (m) one (1) natural gas-fired heater, designated as H8, constructed in 1983, rated at 0.1 MMBtu/hr, exhausting through stack H8;
- (n) two (2) natural gas-fired water heaters, designated as W1 and W2, constructed in 1983, each rated at 0.04 MMBtu/hr, exhausting through stacks W1 and W2, respectively;
- (o) one (1) natural gas-fired air makeup unit, designated as A1, constructed in 1983, rated at 2.0 MMBtu/hr, venting to the indoors;
- (p) Unpaved roads and parking lots with public access;

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) one (1) surface coating booth, designated as SC-1, constructed in 1983, equipped with one (1) air-assisted airless spray gun, designated as SG-1, constructed in 1999, for application of surface coatings to metal parts at a maximum capacity of 0.1 steel tanks per hour (177 pounds per hour) and 100 pounds of metal parts per hour, controlled by dry filter, and with cleanup operations utilizing hand or soak application of a non-halogenated organic solvent, and exhausting through stack SC-1. This booth also includes a backup spray gun, designated as SG-2, constructed in 1999;

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Source Specific Operating Agreement (SSOA) No. 141-9285 00181, issued on December 29, 1997, (surface coating operation under 326 IAC 2-9-2.5).

Enforcement Issue

ABTREX Industries, Inc. began construction and operation of their stationary tank construction and repair source in 1983. On December 29, 1997, ABTREX Industries, Inc. was issued an SSOA No. 141-9285 00181 for a surface coating operation under 326 IAC 2-9-2.5. Based on an inspection by IDEM on July 26, 2005, it was determined that some of the operations/emission units at this facility do not qualify for a SSOA. These operations/emissions units are listed in this Technical Support Document under the heading Unpermitted Emission Units and Pollution Control Equipment. IDEM is aware that these operations/emissions units were constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
H1 – H8	Natural Gas-Fired Heaters	22.0	0.5	1,500	500
W1 – W2	Natural Gas-Fired Water Heaters	16.0	0.33	1,250	500
none	Natural Gas-Fired Heat Treat Oven	7.0	0.25	450	500
B1	Natural Gas-Fired Boiler	12.0	2.50	1,250	450
SC-1	Surface Coating Booth	22.0	3.54	15,000	77
DC-1	Baghouse Dust Collector for SB-1	21.0	1.5	4,000	77

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 24, 2005.

Emission Calculations

See Appendix A of this TSD for detailed emissions calculations (Appendix A, pages 1 through 8).

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.”

Pollutant	Potential To Emit (tons/year)
PM	9.04
PM-10	7.79
SO ₂	0.03
NO _x	4.29
VOC	17.43
CO	3.61

HAPs	Potential To Emit (tons/year)
Styrene	2.83
Methyl Ethyl Ketone	4.45
Cobalt	negligible
Chromium	negligible
Manganese	0.01
Nickel	negligible
Epichlorohydrin	0.04
Ethylbenzene	0.81
Methyl methacrylate	0.04
Xylene	2.25
n-Hexane	0.97
Toluene	4.55
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
Lead	negligible
Cadmium	negligible
TOTAL HAPs	15.96

- (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 St. Joseph County.

Pollutant	Status
PM10	Attainment or Unclassifiable
PM2.5	Attainment or Unclassifiable
SO ₂	Attainment
NO ₂	Attainment or Unclassifiable
1-Hour Ozone	Maintenace Attainment
8-Hour Ozone	Basic Nonattainment
CO	Attainment or Unclassifiable
Lead	Attainment or Unclassifiable

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standard. St. Joseph County has been designated as basic nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) St. Joseph County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.
- (c) St. Joseph 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.
- (d) 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.

Potential To Emit After Controls

Existing 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	2.29
PM-10	2.52
SO ₂	0.03
NO _x	4.29
VOC	17.43
CO	3.61
Worst Single HAP	4.55
Combination HAPs	15.96

- (a) This 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 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) This source is not subject to the requirements of 326 IAC 12 or 40 CFR 60, Subpart Dc (60.40c through 60.48c), Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, because the steam generating boiler at this source has a heat input rate less than or equal to 10 million Btu per hour (MMBtu/hr).
- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (c) This source is not subject to the requirements of 40 CFR 63, Subpart T, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning (63.460 through 63.470) (326 IAC 20-6-1), because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (d) This source is not subject to the requirements of 40 CFR 63, Subpart Mmmm, NESHAP for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63.3880 - 63.3981), because this source is not a major source of HAPs as defined in 40 CFR 63.2.
- (e) This source is not subject to the requirements of 40 CFR 63, Subpart Pppp, NESHAP for Surface Coating of Plastic Parts and Products (40 CFR Part 63.4480 - 63.4581), because the source is not a major source of HAPs as defined in 40 CFR 63.2.
- (f) This source is not subject to the requirements of 40 CFR 63, Subpart Wwww, NESHAP for Reinforced Plastic Composites Production (63.5780 through 63.5935) (326 IAC 20-56-1), because this source is not a major source of HAPs.
- (g) This source is not subject to the requirements of 40 CFR 63, Subpart Dddd, (63.7480 through 63.7575), NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters, because the source is not a major source of HAPs.
- (h) 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 in 1983, 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. This source will be constructed in St. Joseph County, which has been designated as basic nonattainment for the 8-hour ozone standard. The uncontrolled potential to emit of VOC and NO_x are each less than 100 tons per year. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) 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 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in St. Joseph 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 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 - Fiberglass Operation

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

Pursuant to 326 IAC 6-3-1(b)(14), the one (1) resin chop gun is exempt from the requirements of 326 IAC 6-3, because it has potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 20-25-1 (Emissions from Reinforced Plastics Composites Fabricating Emission Units)

The requirements of 326 IAC 20-25-1 are not applicable to the fiberglass operation (FG-1) at this source, since this source does not have the potential to emit ten (10) tons per year of any single hazardous air pollutant (HAP) or twenty-five (25) tons per year of any combination of HAPs and this source does not have actual emissions of styrene equal to or greater than three (3) tons per year.

State Rule Applicability - Welding Equipment

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

- (a) Pursuant to 326 IAC 6-3-1(b)(9), the five (5) stick welding stations (WLD1 through WLD5) and three (3) metal inert gas (MIG) welding stations (WLD6 through WLD8) are each 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 two (2) oxyacetylene/electric arc flame cutting stations are each 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.

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 the one (1) abrasive mechanical blaster (SB-1). Pursuant to 326 IAC 6-3-2(e)(2), the particulate emissions from SB-1 shall not exceed 0.89 pounds per hour based on a process weight rate equal to 0.10 tons of abrasive per hour (203.3 pounds of abrasive per hour). The allowable rate of emission 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 from the corrugation line are estimated to be 0.66 pounds per hour, which is less than the 326 IAC 6-3-2 allowable hourly rate of 0.89 pounds per hour. Therefore, compliance with 326 IAC 6-3 is expected.

State Rule Applicability - Adhesive Preparation and Surface Coating Operation

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

Pursuant to 326 IAC 6-3-1(b)(14), the adhesive preparation and surface coating operation (AP-1) 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 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1 (Applicability), this rule applies to facilities that were in existence as of July 1, 1990, located in St. Joseph County, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The requirements of 326 IAC 8-2-9 are not applicable to the adhesive preparation and surface coating operation (AP-1), since it has actual VOC emissions less than fifteen (15) pounds per day before add-on controls.

State Rule Applicability - Surface Coating and Rubber Lining Installation Operation

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

Pursuant to 326 IAC 6-3-1(b)(14), the surface coating and rubber lining installation operation (RP-1) 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 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1 (Applicability), this rule applies to facilities that were in existence as of July 1, 1990, located in St. Joseph County, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The requirements of 326 IAC 8-2-9 are not applicable to the surface coating and rubber lining installation operation (RP-1), since it has actual VOC emissions less than fifteen (15) pounds per day before add-on controls.

State Rule Applicability - PVC/Polyethylene Tank Part Assembly Operation

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

Pursuant to 326 IAC 6-3-1(b)(14), the PVC/polyethylene tank part assembly operation (PVCP-1) 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 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1 (Applicability), this rule applies to facilities that were in existence as of July 1, 1990, located in St. Joseph County, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The requirements of 326 IAC 8-2-9 are not applicable to the PVC/polyethylene tank part assembly operation (PVCP-1), since it has actual VOC emissions less than fifteen (15) pounds per day before add-on controls.

State Rule Applicability - Surface Coating Booth

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

Application of a surface coatings in surface coating booth SC-1 using the one (1) air-assisted airless spray gun has potential particulate emissions that are greater than five hundred fifty-one thousandths (0.551) pound per hour and has the potential to use greater than five (5) gallons per day of surface coatings. Therefore, the requirements of 326 IAC 6-3-2 are applicable to the surface coating booth SC-1. Pursuant to 326 IAC 6-3-2(d), particulate from surface coating booth SC-1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

326 IAC 8-2-9 (Volatile Organic Compounds, Miscellaneous Metal Coating Operations)

Pursuant to 326 IAC 8-2-1 (Applicability), this rule applies to facilities that were in existence as of July 1, 1990, located in St. Joseph County, and with actual VOC emissions of greater than fifteen (15) pounds per day before add-on controls. The requirements of 326 IAC 8-2-9 are not applicable to the surface coating booth SC-1, since it has actual VOC emissions 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 oven, boiler, heaters, and air makeup 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)

- (a) The natural gas-fired oven, heaters, and air makeup unit are not subject to 326 IAC 6-2 as they are not sources of indirect heating.
- (b) The natural gas-fired steam boiler is subject to the requirements of 326 IAC 6-2-3, since it is a source of indirect heating, was constructed prior to September 21, 1983, and is located in St. Joseph County. Pursuant to 326 IAC 6-2-3(e), the steam boiler has a particulate matter emission limitation of 0.6 pounds per million British thermal units heat input (lb/MMBtu), since it has a heat input of 250 MMBtu/hr or less and it began operation after June 8, 1972. The steam boiler has a potential to emit particulate matter as follows:

$$\text{PTE PM} = (0.0374 \text{ ton/yr PM}) \times (2000 \text{ lb/ton}) / [(8760 \text{ hr/yr}) \times (4.5 \text{ MMBtu/hr})] = 0.002 \text{ lb/MMBtu PM}$$

Therefore, the steam boiler will comply with this rule.

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

- (a) Pursuant to 326 IAC 6-3-1(b)(14), the natural gas-fired oven, heaters, and air makeup unit are each 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.
- (b) Pursuant to 326 IAC 6-3-1(b)(1), the steam boiler is exempt from the requirements of 326 IAC 6-3, because it is a source of indirect heating.

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

The natural gas-fired oven, boiler, heaters, and air makeup unit 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.

State Rule Applicability – Degreasing Operations

326 IAC 8-3-1 (Organic Solvent Degreasing Operations)

The requirements of 326 IAC 8-3-1 are not applicable to degreasing operations at this source, since degreasing is performed using hand application of solvents.

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).

Conclusion

The operation of this source shall be subject to the conditions of the attached registration, No 141-21904-00181.

**Appendix A: Emissions Calculations
Emission Summary**

**Company Name: ABTREX Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005**

Uncontrolled Potential Emissions (tons/year)							
Emissions Generating Activity							
Category	Pollutant	Fiberglass Operations (FG-1)	Welding & Flame Cutting	Abrasive Blasting (SB-1)	Surface Coating (AP-1, RP-1, PVCP-1, and SC-1)	Natural Gas Combustion	TOTAL
Criteria Pollutants	PM	0	1.15	2.88	4.92	0.08	9.04
	PM10	0	1.15	1.39	4.92	0.33	7.79
	SO2					0.03	0.03
	NOx					4.29	4.29
	VOC	3.43			13.76	0.24	17.43
	CO					3.61	3.61
Hazardous Air	Styrene	2.83					2.83
	Methyl Ethyl Ketone	0.01			4.44		4.45
	Cobalt	3.6E-03	2.0E-06				3.6E-03
	Chromium		1.9E-03			6.0E-05	2.0E-03
	Manganese		0.01			1.6E-05	0.01
	Nickel		6.3E-04			9.0E-05	7.2E-04
	Epichlorohydrin				0.04		0.04
	Ethylbenzene				0.81		0.81
	Methyl methacrylate				0.04		0.04
	Xylene				2.25		2.25
	n-Hexane				0.89	0.08	0.97
	Toluene				4.54	1.5E-04	4.55
	Benzene					9.0E-05	9.0E-05
	Dichlorobenzene					5.2E-05	5.2E-05
	Formaldehyde					3.2E-03	3.2E-03
	Lead					2.1E-05	2.1E-05
Cadmium					4.7E-05	4.7E-05	
	Totals	2.85	0.01	0.00	13.02	0.08	15.96
						Worse Case HAP	4.55

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

Controlled Potential Emissions (tons/year)							
Emissions Generating Activity							
Category	Pollutant	Fiberglass Operations (FG-1)	Welding & Flame Cutting	Abrasive Blasting (SB-1)	Surface Coating (AP-1, RP-1, PVCP-1, and SC-1)	Natural Gas Combustion	TOTAL
Criteria Pollutants	PM	0	1.15	0.03	1.03	0.08	2.29
	PM10	0	1.15	0.01	1.03	0.33	2.52
	SO2					0.03	0.03
	NOx					4.29	4.29
	VOC	3.43			13.76	0.24	17.43
	CO					3.61	3.61
Hazardous Air Pollutants	Styrene	2.83					2.83
	Methyl Ethyl Ketone	0.01			4.44		4.45
	Cobalt	3.6E-03	2.0E-06				3.6E-03
	Chromium		1.9E-03			6.0E-05	2.0E-03
	Manganese		0.01			1.6E-05	0.01
	Nickel		6.3E-04			9.0E-05	7.2E-04
	Epichlorohydrin				0.04		0.04
	Ethylbenzene				0.81		0.81
	Methyl methacrylate				0.04		0.04
	Xylene				2.25		2.25
	n-Hexane				0.89	0.08	0.97
	Toluene				4.54	1.5E-04	4.55
	Benzene					9.0E-05	9.0E-05
	Dichlorobenzene					5.2E-05	5.2E-05
	Formaldehyde					3.2E-03	3.2E-03
	Lead					2.1E-05	2.1E-05
Cadmium					4.7E-05	4.7E-05	
	Totals	2.85	0.01	0.00	13.02	0.08	15.96
						Worse Case HAP	4.55

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

**Appendix A: Emissions Calculations
Reinforced Plastics and Composites Open Molding Operations*
Resin and Gel Usage
Fiberglass Operation (FG-1)**

Company Name: **ABTREX Industries, Inc.**
Address City IN Zip: **59640 Market Street, South Bend, IN 46614**
Permit Number: **141-21904**
Pit ID: **141-00181**
Reviewer: **Nathan C. Bell**
Date: **November 17, 2005**

Material	Density (lb/gal)	Material Usage (gal/unit)	Potential Throughput (unit/hour)	Material Usage (lb/hr)	Material Usage (tons/yr)	Weight % VOC	Weight % Styrene	Weight % Cobalt	Weight % MEK	CFA Unified Emission Factor (lbs monomer/ton resin or gel) (VOC or styrene)	PTE of VOC (lb/day)	PTE of VOC (tons/yr)	PTE of Styrene (tons/yr)	PTE of Cobalt (tons/yr)	PTE of MEK (tons/yr)	Transfer Efficiency	PTE PM/PM10 (lbs/hr)	PTE PM/PM10 (tons/yr)
Manual Resin Application																		
Resin 1	8.92	1.304	0.10	1.16	5.09	36.0%	36.0%	0%	0%	100	1.396	0.255	0.255	0	0	100%	0	0
Resin 2	9.17	0.267	0.10	0.24	1.07	47.5%	47.5%	1.0%	0%	166	0.488	0.089	0.089	0	0	100%	0	0
Resin 3	8.53	0.259	0.10	0.22	0.97	50.0%	50.0%	0%	0%	180	0.477	0.087	0.087	0	0	100%	0	0
Resin 4	9.58	1.019	0.10	0.98	4.28	41.0%	41.0%	0%	0%	129	1.511	0.276	0.276	0	0	100%	0	0
Resin 5	9.48	5.408	0.10	5.13	22.46	42.0%	42.0%	0%	0%	134	8.244	1.505	1.505	0	0	100%	0	0
Resin 6	8.67	0.146	0.10	0.13	0.55	55.0%	55.0%	0%	0%	208.8	0.317	0.058	0.058	0	0	100%	0	0
Mechanical Resin Application - Non-Atomized																		
Resin 1	8.92	0.435	0.10	0.39	1.70	36.0%	36.0%	0%	0%	80	0.372	0.068	0.068	0	0	100%	0	0
Resin 2	9.17	0.089	0.10	0.08	0.36	47.5%	47.5%	1.0%	0%	116.5	0.114	0.021	0.021	3.6E-03	0	100%	0	0
Resin 3	8.53	0.086	0.10	0.07	0.32	50.0%	50.0%	0%	0%	124	0.109	0.020	0.020	0	0	100%	0	0
Resin 4	9.58	0.340	0.10	0.33	1.43	41.0%	41.0%	0%	0%	96	0.375	0.068	0.068	0	0	100%	0	0
Resin 5	9.48	1.803	0.10	1.71	7.49	42.0%	42.0%	0%	0%	99	2.031	0.371	0.371	0	0	100%	0	0
Resin 6	8.67	0.049	0.10	0.04	0.19	55.0%	55.0%	0%	0%	139.7	0.071	0.013	0.013	0	0	100%	0	0
Catalyst																		
Cadox D-50**	8.34	0.165	0.10	0.14	0.60	100%	0%	0%	2%	NA	3.303	0.603	0	0	1.2E-02	100%	0	0
Cleanup Solvent																		
Acetone**	6.59	0.1116	0.10	0.07	0.32	0%	0%	0%	0%	NA	0	0	0	0	0	100%	0	0
Total				46.82							18.81	3.43	2.83	1.4E-02	1.2E-02		0	0

METHODOLOGY

* Open Molding Operations include the following: manual application, mechanical application, gel coat application, and filament application.

**For this TSD, it is assumed that 100% of the VOC and/or HAP in the catalysts and cleanup solvents volatilizes during usage

Monomer emissions during open molding resin/gelcoat application calculated using "Unified Emission Factors for Open Molding of Composites," Composites Fabricators Association (April 1999).

Material Usage (lbs/hr) = [Density (lb material/gal)]*[Material Usage (gal/unit)]*[Potential Throughput (unit/hr)]

Material Usage (tons/yr) = [Material Usage (lbs/hr)]*[8760 hours/yr]*[ton/2000 lb]

PTE of VOC (lb/day) for resins or gels = [Density (lb material/gal)]*[Material Usage (gal/unit)]*[Potential Throughput (unit/hr)]*[UEF (lb monomer/ton material)]*[24 hrs/day]*[ton material/2000 lbs material]

PTE of VOC (ton/year) for resins or gels = [PTE of VOC (lb/day)]*[365 days/yr]*[ton/2000 lb]

PTE of VOC (ton/year) for catalyst or solvent = [Density (lb/gal)]*[Material Usage (gal/unit)]*[Potential Throughput (unit/hr)]*[Weight % VOC]*[8760 hours/yr]*[ton/2000 lb]

PTE of PM/PM10 (lbs/hr) = [Density (lb/gal)]*[Material Usage (gal/unit)]*[Potential Throughput (unit/hr)]*[1- Weight % VOC]*[1 - transfer efficiency]

PTE of PM/PM10 (ton/year) = [PTE of PM/PM10 (lbs/hr)]*[8760 hours/yr]*[ton/2000 lb]

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

**Company Name: ABTREX Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005**

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

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (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															
Gas Metal Arc Welding (E70S)	3	0.15	3.6	3,942	5.2E-03	1.0E-06	1.0E-06	3.2E-04	1.0E-06	2.3E-03	4.5E-07	4.5E-07	1.4E-04	4.5E-07	1.4E-04
Shielded Metal Arc Welding (E702)	5	0.58	13.9	25,404	9.2E-03	1.0E-06		6.29E-04		0.03	2.9E-06		1.8E-03		1.8E-03

PROCESS	Number of Stations	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	2	1.00	12.00	720	1.6E-01	3.0E-04		5.0E-04	1.0E-04	0.23	4.3E-04		7.2E-04	1.4E-04	1.3E-03

Abbreviations

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

Total Potential Emissions lbs/hr	0.26	4.4E-04	4.5E-07	2.7E-03	1.4E-04	3.3E-03
Total Potential Emissions lbs/day	6.30	0.01	1.1E-05	0.06	3.5E-03	0.08
Total Potential Emissions tons/year	1.15	1.9E-03	2.0E-06	0.01	6.3E-04	0.01

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
Shot Blaster SB-1**

Company Name: ABTrex Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005

Emission Factors for Abrasives

AP-42 13.2.6-1 Emission Factor		
Abrasive	lb PM / lb abrasive	lb PM10 / lb abrasive
Sand	0.0135	0.0065
Grit	0.0032	0.0016
Steel Shot	0.0014	0.0007
Other (assume grit)	0.0032	0.0016

Abrasive Material	Abrasive Usage (lbs/tank)	Potential Throughput (tanks/hr)	Abrasive Usage (lbs/hr)	PTE PM (lb/hr)	PTE PM10 (lb/hr)	PTE PM (tons/yr)	PTE PM10 (tons/yr)
Coal Slag (Black Beauty)	2032.8	0.1	203.3	0.66	0.32	2.88	1.39

Total Uncontrolled Potential to Emit (PTE) =						2.88	1.39
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Baghouse Control Efficiency =						99.0%	99.0%
Total Controlled Potential to Emit (PTE) (tons/yr) =						0.029	0.014

METHODOLOGY

Abrasive Usage (lbs/hr) = [Abrasive Usage (lbs/tank)] * [Potential Throughput (tanks/hr)]
PTE of PM or PM10 (lbs/hr) = [Abrasive Usage (lbs/hr)] * [Emission Factor (lb PM or PM10/lb abrasive)]
PTE of PM or PM10 (tons/yr) = [PTE of PM or PM10 (lbs/hr)] * (8760 hrs/yr) * (1 ton/2000 lbs)
Controlled Potential to Emit = Uncontrolled Potential to Emit * (1 - Control Efficiency)

Compliance with 326 IAC 6-3-2:

Allowable Emissions, E = 4.10 * P ^{0.67} (for weight rates up to 60,000 lb/hr)	
where	E = emissions in lbs/hr
	P = process weight in tons/hr
	P = 203.3 lbs/hr
	= 0.10 tons/hr
Allowable PM Emissions, E =	0.89 lbs/hr
	= 21.3 lbs/day
	= 3.9 tons/yr
The use of baghouses ensure compliance with the limit above.	

**Appendix A: Emissions Calculations
Surface Coating
AP-1, RP-1, PVCP-1, and SC-1**

**Company Name: ABTrex Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005**

Volatile Organic Comounds (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)	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
Adhesive Preparation Operation (AP-1)																					
ABTrex Rubber Adhesive Coating (as applied)	Metal	9.28	65.0%	0%	35%	65.0%	0%	17.00%	0.3128	0.10	0.75	0.29	6.03	6.03	0.19	4.53	0.83	0	0	35.48	100%
Surface Coating and Rubber Lining Installation Operation (RP-1)																					
Rubber Primer	Metal	7.80	75.80%	0%	24.2%	75.8%	0%	15.00%	0.2521	0.10	0.61	0.20	5.91	5.91	0.15	3.58	0.65	0	0	39.42	100%
Rubber Adhesive	Metal	7.33	92.50%	0%	7.5%	92.5%	0%	6.29%	0.2573	0.10	0.62	0.19	6.78	6.78	0.17	4.19	0.76	0	0	107.79	100%
PVC/Polyethylene Tank Part Assembly Operation (PVCP-1)																					
PVC Primer (as applied)	Metal	7.66	79.67%	0%	20.3%	79.7%	0%	18.11%	0.4129	0.10	0.99	0.32	6.10	6.10	0.25	6.05	1.10	0	0	33.70	100%
PVC Adhesive	Metal	7.18	76.74%	0%	23.3%	76.7%	0%	26.53%	0.9115	0.10	2.19	0.65	5.51	5.51	0.50	12.05	2.20	0	0	20.77	100%
Surface Coating Booth (SC-1)																					
Worst Case Coating (as applied)	Metal	11.92	30.96%	0%	69.0%	31.0%	0%	48.70%	2.7311	0.10	6.55	3.26	3.69	3.69	1.01	24.19	4.41	1.12	4.92	7.58	50%
MEK Cleanup Solvent	Not Applicable	6.76	100%	0%	0.0%	100%	0%	0%	1.2836	0.10	3.08	0.87	6.76	6.76	0.87	20.83	3.80	0.00	0.00	---	50%

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)

Total Uncontrolled Potential to Emit (PTE) =	3.14	75.4	13.76	1.12	4.92
Surface Coating Booth (SC-1) Dry Filter Control Efficiency =	79.1%				
Surface Coating Booth (SC-1) PM/PM10 Emissions after controls =	0.23	1.03			
Total Controlled Potential to Emit (PTE) (tons/yr) =	0.23	1.03			

326 IAC 8-2-9 Applicability Based on Actual Hours of Operation

Operation and Material*	Density (lb/gal)	Weight % VOCs	Usage (gal/unit)	Maximum Capacity (unit/hr)	Actual Usage (gal/day)	Actual Usage (lbs/hr)	Actual VOC (lbs/hr)	Actual VOC (lbs/day)
Adhesive Preparation Operation (AP-1)								
ABTrex Rubber Adhesive Coating (as applied)	9.28	65.0%	0.3128	0.10	0.29	0.29	0.19	1.76
TOTAL 1.76								
Surface Coating and Rubber Lining Installation Operation (RP-1)								
Rubber Primer	7.80	75.8%	0.2521	0.10	0.24	0.20	0.15	1.39
Rubber Adhesive	7.33	92.5%	0.2573	0.10	0.24	0.19	0.17	1.63
TOTAL 3.02								
PVC/Polyethylene Tank Part Assembly Operation (PVCP-1)								
PVC Primer (as applied)	7.66	79.7%	0.4129	0.10	0.39	0.32	0.25	2.35
PVC Adhesive	7.18	76.7%	0.9115	0.10	0.85	0.65	0.50	4.69
TOTAL 7.04								
Surface Coating Booth (SC-1)								
Worst Case Coating (as applied)	11.92	31.0%	2.7311	0.10	2.55	3.26	1.01	9.40
TOTAL 9.40								

<---- 326 IAC 8-2-9 not applicable, since actual VOC emissions are less than 15 lbs/day

<---- 326 IAC 8-2-9 not applicable, since actual VOC emissions are less than 15 lbs/day

<---- 326 IAC 8-2-9 not applicable, since actual VOC emissions are less than 15 lbs/day

<---- 326 IAC 8-2-9 not applicable, since actual VOC emissions are less than 15 lbs/day

METHODOLOGY

Actual Usage (lbs/hr) = Actual Usage (gal/day) * Density (lb/gal) / (9.33 hour/day)
 Actual Usage (gal/day) = Usage (gallons/unit) * Maximum Capacity (units/hour) * 9.33 hours/day
 Actual VOC (lbs/hr) = Actual Usage (lbs/hr) * Weight % VOCs
 Actual VOC (lbs/day) = Actual VOC (lbs/hr) * (9.33 hours/day)

Appendix A: Emissions Calculations
Surface Coatings and Solvents: Hazardous Air Pollutants (HAPs)

Company Name: ABTREX Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Pit ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005

Operation and Material	Maximum		Weight % Toluene	Toluene Emissions (tons/yr)	Weight % EPCH	EPCH Emissions (tons/yr)	Weight % MEK	MEK Emissions (tons/yr)	Weight % EB	EB Emissions (tons/yr)	Weight % MMA	MMA Emissions (tons/yr)	Weight % Xylene	Xylene Emissions (tons/yr)	Weight % Hexane	Hexane Emissions (tons/yr)	Total (tons/yr)
	Density (lb/gal)	Usage (gal/day)															
Adhesive Preparation Operation (AP-1)																	
ABTREX Rubber Adhesive Coating (as applied)	9.28	0.75	65.0%	0.83	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0.83
Surface Coating and Rubber Lining Installation Operation (RP-1)																	
Rubber Primer	7.80	0.61	0%	0	5.0%	0.043	25.0%	0.22	10.0%	0.086	0%	0	35.0%	0.301	0%	0	0.65
Rubber Adhesive	7.33	0.62	95.0%	0.78	0%	0	0%	0	0%	0	5.0%	0.041	0%	0	0%	0	0.83
PVC/Polyethylene Tank Part Assembly Operation (PVCP-1)																	
PVC Primer (as applied)	7.66	0.99	10.5%	0.15	0%	0	30.5%	0.42	0%	0	0%	0	0%	0	0%	0	0.57
PVC Adhesive	7.18	2.19	45.0%	1.29	0%	0	0%	0	0%	0	0%	0	0%	0	31.0%	0.889	2.18
Surface Coating Booth (SC-1)																	
Worst Case Coating (as applied)	11.92	6.55	10.51%	1.50	0%	0	0%	0	5.05%	0.72	0%	0	13.69%	1.95	0%	0	4.17
MEK Cleanup Solvent	6.76	3.08	0%	0	0%	0	100%	3.80	0%	0	0%	0	0%	0	0%	0	3.80
Totals			4.54	0.043	4.438	0.806	0.041	2.253	0.889	13.02							

METHODOLOGY

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

ACRONYMS

EPCH = Epichlorohydrin
 MEK = methyl ethyl ketone

EB = ethylbenzene
 MMA = methyl methacrylate

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

Company Name: ABTrex Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005

Emission Unit	Number of Units	Unit Heat Input Capacity MMBtu/hr	Combined Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Pollutant					
					PM*	PM10*	SO2	NOx**	VOC	CO
					1.9	7.6	0.6	100	5.5	84.0
					Potential Emission tons/yr					
					PM*	PM10*	SO2	NOx**	VOC	CO
Heaters H1-H4	4	0.350	1.4	12.26	0.012	0.047	0.004	0.613	0.034	0.515
Heater H5	1	0.200	0.2	1.75	0.002	0.007	0.001	0.088	0.005	0.074
Heater H6	1	0.300	0.3	2.63	0.002	0.010	0.001	0.131	0.007	0.110
Heater H7	1	0.225	0.2	1.97	0.002	0.007	0.001	0.099	0.005	0.083
Heater H8	1	0.100	0.1	0.88	0.001	0.003	0.000	0.044	0.002	0.037
Water Heater W1 and W2	2	0.040	0.1	0.70	0.001	0.003	0.000	0.035	0.002	0.029
Air Makeup Unit A-1	1	2.000	2.0	17.52	0.017	0.067	0.005	0.876	0.048	0.736
Heat Treat Oven	1	1.000	1.0	8.76	0.008	0.033	0.003	0.438	0.024	0.368
Steam Boiler	1	4.500	4.50	39.42	3.7E-02	0.150	0.012	1.971	0.108	1.656
Totals	13		9.8		0.082	0.326	0.026	4.295	0.236	3.607

Emission Unit	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
	Potential Emission tons/yr									
	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Heaters H1-H4	1.3E-05	7.4E-06	4.6E-04	0.011	2.1E-05	3.1E-06	6.7E-06	8.6E-06	2.3E-06	1.3E-05
Heater H5	1.8E-06	1.1E-06	6.6E-05	0.002	3.0E-06	4.4E-07	9.6E-07	1.2E-06	3.3E-07	1.8E-06
Heater H6	2.8E-06	1.6E-06	9.9E-05	0.002	4.5E-06	6.6E-07	1.4E-06	1.8E-06	5.0E-07	2.8E-06
Heater H7	2.1E-06	1.2E-06	7.4E-05	0.002	3.4E-06	4.9E-07	1.1E-06	1.4E-06	3.7E-07	2.1E-06
Heater H8	9.2E-07	5.3E-07	3.3E-05	0.001	1.5E-06	2.2E-07	4.8E-07	6.1E-07	1.7E-07	9.2E-07
Water Heater W1 and W2	7.4E-07	4.2E-07	2.6E-05	0.001	1.2E-06	1.8E-07	3.9E-07	4.9E-07	1.3E-07	7.4E-07
Air Makeup Unit A-1	1.8E-05	1.1E-05	6.6E-04	0.016	3.0E-05	4.4E-06	9.6E-06	1.2E-05	3.3E-06	1.8E-05
Heat Treat Oven	9.2E-06	5.3E-06	3.3E-04	0.008	1.5E-05	2.2E-06	4.8E-06	6.1E-06	1.7E-06	9.2E-06
Steam Boiler	4.1E-05	2.4E-05	1.5E-03	0.035	6.7E-05	9.9E-06	2.2E-05	2.8E-05	7.5E-06	4.1E-05
Totals	9.0E-05	5.2E-05	3.2E-03	0.077	1.5E-04	2.1E-05	4.7E-05	6.0E-05	1.6E-05	9.0E-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

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

**Company Name: ABTREX Industries, Inc.
Address City IN Zip: 59640 Market Street, South Bend, IN 46614
Permit Number: 141-21904
Plt ID: 141-00181
Reviewer: Nathan C. Bell
Date: November 17, 2005**

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (12/2003).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)
Truck	1	12	12	30	360	0.079	0.948
Total			12		360		0.948

Average Vehicle Weight Per Trip = 30.0 tons/trip
Average Miles Per Trip = 0.079 miles/trip

Maximum Vehicle Mile Traveled (VMT) Per Year

12 trip/day x 0.079 mile/trip x 2 (round trips) x 365 day/yr = 692.04 miles per year

$E_f = k \cdot [(s/12)^a] \cdot [(W/3)^b]$ (Equation 1a from AP-42 13.2.2)

	PM10	PM30 or TSP	
where k =	1.5	4.9	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2)
s =	5.1	5.1	% = mean percent silt content of typical unpaved roads from AP-42 Table 13.2.2-3
a =	0.9	0.7	= constant (AP-42 Table 13.2.2-2)
W =	30.0	30.0	tons = average vehicle weight (provided by source)
b =	0.45	0.45	= constant (AP-42 Table 13.2.2-2)

Ef =	1.96	7.59
Unmitigated PTE (tons/yr) =	0.68	2.63

Taking natural mitigation due to precipitation into consideration, $E_{ext} = E \cdot [(365-p)/365]$
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

Mitigated PTE (tons/yr) =	0.45	1.73
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