June 4, 2002

Bill Morgan
Tuthill Transport Technologies
P.O. Box 600
Brookston, Indiana 47923

Re: Registered Construction and Operation Status,
181-14211-00031

Dear Mr. Morgan:

The application from Tuthill Transport Technologies, received on March 26, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following metal hydraulic axles assembly and painting source, located at 9098 West 800 South, Brookston, Indiana, 47923, is classified as registered:

(a) One (1) auxiliary paint booth, known as AUX1, equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 5S1A in Building 5, capacity: 4 metal hydraulic axle assemblies per hour.

(b) One (1) paint booth main, known as PBM, formerly known as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, capacity: 2 metal hydraulic axle assemblies per hour.

(c) One (1) propane fired paint booth main curing oven, known as PBMCO, exhausted through stack 4S8A in Building 4, heat input capacity: 1.5 million British thermal units per hour.

(d) One (1) paint booth for prime coat, known as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, capacity: 2 metal hydraulic axle assemblies per hour.

(e) One (1) propane fired paint booth prime coat curing oven, known as PBPCCO, formerly known as main booth curing oven (MBCO), exhausted through stack 4S4A in Building 4, heat input capacity: 0.8 million British thermal units per hour.

(f) One (1) propane fired evaporator, known as EVAP1, exhausted through stack 4S6A in Building 4, heat input capacity: 0.395 million British thermal units per hour.

(g) One (1) propane fired space heater, known as SH1, exhausted through stack 2S3A in Building 2, heat input capacity: 0.130 million British thermal units per hour.

(h) One (1) propane fired dry off oven, known as DO1, exhausted through stack 4S1A in Building 4, heat input capacity: 0.8 million British thermal units per hour.

(i) Seven (7) propane fired space heaters, known as CRVT2:#1 - #7, exhausted through stack 5S2A in Building 5, heat input capacity: 0.42 million British thermal units per hour, each.

(j) Eight (8) propane fired space heaters, known as CRVT3:#1 - #8, exhausted through stack 5S3A in Building 5, heat input capacity: 0.48 million British thermal units per hour, each.

(k) Eight (8) propane fired space heaters, known as CRVT4:#1 - #8, exhausting to stack 5S4A in Building 5, heat input capacity: 0.48 million British thermal units per hour, each.

(l) Two (2) propane fired space heaters, known as MSH1 and MSH2, exhausted through stacks 2S1A and 2S2A in Building 5, heat input capacity: 0.13 million British thermal units per hour, each.

(m) One (1) propane fired space heater, known as REZ1, exhausted through stack 4S4A in Building 4, heat input capacity: 0.40 million British thermal units per hour.

(n) One (1) propane fired space heater, known as REZ2, exhausted through stack 5S8A in Building 5, heat input capacity: 0.40 million British thermal units per hour.

(o) One (1) propane fired space heater, known as REZ3, exhausted through stack 5S5A in Building 5, heat input capacity: 0.40 million British thermal units per hour.

(p) One (1) propane fired immersion tube heater, known as WTS1B, exhausted through stack 4S1A in Building 4, heat input capacity: 1.50 million British thermal units per hour.

(q) One (1) wash tank washer entrance and exit, known as WTEN and WTEX, exhausted through stacks 4S1B and 4S1C, respectively, in Building 4, capacity: 8.68 pounds per hour of washing solution, total.

(r) One (1) cold cleaner degreaser for drive assemblies, known as PWCD1, constructed after July 1, 1990**,** exhausted through stack 5S7A in Building 5, capacity: 4.91 gallons of mineral spirts per day.

(s) One (1) cold cleaner degreaser for hose assemblies, known as HACD1, constructed before July 1, 1990, but after January 1, 1980, exhausted through stack 5S6A in Building 5, capacity: 1.68 gallons of mineral spirits per day

(t) Twenty-Six (26) metal inert gas (MIG) welding stations, known as MIG1 - MIG21 & MIG 23 - MIG27 with MIG1 - MIG15, MIG21 and MIG23 - MIG26 located in Building 5, MIG16 located in Building 4, MIG17 located in Building 3, and MIG18 - MIG20 and MIG 27 located in Building 2, using ER70S-3 and EA3K welding wire, capacity: five (5) pounds per hour of welding wire, each.

(u) One (1) stick welding station, know as SW1 located in Building 3, capacity: 0.53 pounds of welding rod per hour.

(v) One (1) oxyacetylene flame cutting table, known as FC1, located in Building 5, with a rate of thirty-six (36) inches per minute at a three (3) inch thickness.

(w) One (1) laser cutting station, known as LC1, located in Building 5, with a rate of one hundred (100) inches per minute at a five tenths (0.5) inch thickness.

The following conditions 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 15 minutes (60 readings) in a 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 continuos opacity monitor in a six (6) hour period.

2. Any change or modification which may increase the potential to emit a combination of HAPs, PM, PM_{10}, SO_2, VOC, and NO_X to twenty five (25) tons per year, CO to one hundred (100) tons per year or a single HAP to ten (10) tons per year from this source shall require approval from IDEM, OAQ prior to making the change.

3. The following conditions apply to 326 IAC 6-3-2 (Process Operations):

   (a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the three (3) paint booths, known as paint both main (PBM), paint booth prime coat (PBPC), and auxiliary paint booth (AUX1) shall be limited by the following:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

   or

   Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

   (b) The allowable PM emission rate for the twenty-six (26) MIG welding stations, known as MIG1 - 21 & MIG 23 - 27, shall not exceed 17.5 pounds of PM per hour when operating at a process weight rate of 8.68 tons per hour, total. This limit is based on the following equation:

   Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

   $E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and

P = process weight rate in tons per hour

(c) The allowable PM emission rate for the one (1) stick welder, known as SW1, shall not exceed 4.40 pounds of PM per hour when operating at a process weight rate of 1.11 tons per hour. This limit is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(d) The allowable PM emission rate for the one (1) laser cutting station, known as LC1, shall not exceed 42.7 pounds of PM per hour when operating at a process weight rate of 40.8 tons per hour. This limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(e) The allowable PM emission rate for the one (1) flame cutting station, known as FC1, shall not exceed 50.0 pounds of PM per hour when operating at a process weight rate of 88.0 tons per hour. This limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(f) The requirement from CP 181-5227-00031, issued on August 27, 1996, Operation Condition #3, that the particulate matter (PM) emissions due to welding operations shall not exceed the allowable emission rate 1.23 pounds per hour has not been included in this registration.. This requirement is no longer applicable since the process weight rate of the welding operations at this source has changed. Thus, Operation Condition #3 of CP 181-5227-00031 is hereby rescinded.

4. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating) the two (2) paint booths, known as Paint Booth Main (PBM) and Auxiliary Paint Booth (AUX1), must comply with the following:

(a) Three and five-tenths (3.5) pounds of VOC per gallon of coating less water, for air dried and forced warm air dried coatings.

The daily volume weighted average of VOC content shall be calculated using the

following formula, where n is the number of coatings (c):

$$\frac{\sum_{c=1}^{c=n} 3 \text{ coating c (gal)} \times \text{VOC content of c (lbs/gal, less water)}}{\sum_{c=1}^{c=n} 3 \text{ coating c (gal)}}$$

(b) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

(c) The requirement from CP 181-5227-00031, issued on August 27, 1996, Operation Condition #5, that the Main Pain Booth may operated at all times and the Auxiliary Paint booth may operate provided that the ratio of gallons used per day in the Auxiliary Paint Booth to gallons used per day in the Main Paint Booth does not exceed 0.11 has not been included in this registration. This requirement is no longer applicable because this source shall comply with this rule by calculating the daily volume weighted average of coatings used in Paint Booth Main (PBM) and Auxiliary Paint Booth (AUX1). Thus, Operation Condition #5 of CP 181-5227-00031 is hereby rescinded.

5. Any change or modification which increases potential VOC emissions from the one (1) paint booth, known as Paint Booth Prime Coat (PBPC) exhausted through stack 4S7A to fifteen (15) pounds per day or greater, shall cause the facility to be subject 326 IAC 8-2-9 and shall require prior IDEM, OAQ, approval.

6. In order to comply with Condition 3(a), the dry panel filters for particulate mater control shall be in operation at all times when the three (3) paint booths (PBM, PBPC, and AUX1) are in operation.

7. Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), the Permittee shall do the following while operating the two (2) cold cleaners, known as HACD1 and PWCD1:

(a) equip the cleaner with a cover;

(b) equip the cleaner with a facility for draining cleaned parts;

(c) close the degreaser cover whenever parts are not being handled in the cleaner;

(d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) provide a permanent, conspicuous label summarizing the operating requirements;

(f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%)

of the waste solvent (by weight) can evaporate into the atmosphere.

8. Pursuant to 326 IAC 8-3-5 (Cold Cleaner Operation), the Permittee shall ensure that the following control equipment requirements are met while operating the cold cleaner, known as PWCD1:

(a) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(1) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(2) the solvent is agitated; or

(3) the solvent is heated.

(b) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(c) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(d) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(e) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(1) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(2) A water cover when solvent used is insoluble in, and heavier than, water.

(3) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

The Permittee ensure that the following operating requirements are met:

(f) Close the cover whenever articles are not being handled in the degreaser.

(g) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(h) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

9. To document compliance with Condition #4, the Permittee shall maintain records in accordance with (a) through (c) below. Records maintained for (a) through (c) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC content limits established in Condition #4.

(a) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(b) A log of the dates of use; and

(c) The volume weighted VOC content of the coatings used for each day.

(d) The cleanup solvent usage for each day;

(e) The total VOC usage for each day; and

(f) The weight of VOC emitted for each compliance period.

This registration supercedes CP 181-5227-00031 due to changes in operation and potential emissions. 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 Branch
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

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

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or

otherwise modify the source.

Sincerely,

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

MSS/MES

cc: File - White County
White County Health Department
Air Compliance - Wanda Stanfield
Indianapolis Offices
Permit Filing - Lisa Lawrence
Air Programs Section- Michele Boner
Compliance Branch - Karen Nowak

Registration

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

Company Name:	**Tuthill Transport Technologies**
Address:	**9098 West 800 South, Brookston, Indiana 47923**
City:	**Brookston, Indiana 47923**
Authorized individual:	**Bill Morgan**
Phone #:	**219-279-2801**
Registration #:	**R 181-14211-00031**

I hereby certify that Tuthill Transport Technologies is still in operation and is in compliance with the requirements of Registration **181-14211-00031.**

Name (typed):
Title:
Signature:
Date:

June 4, 2002

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	**Tuthill Transport Technologies**
Source Location:	**9098 West 800 South, Brookston, Indiana 47923**
County:	**White County**
SIC Code:	**7692**
Operation Permit No.:	**R 181-14211-00031**
Permit Reviewer:	**Michael S. Schaffer**

The Office of Air Quality (OAQ) has reviewed an application from Tuthill Transport Technologies relating to the operation of a metal hydraulic axles assembly and painting source. This source was previously issued a construction and operation permit for existing facilities. The source is proposing to add new emission units. The applicant initially requested a comprehensive minor source operating permit (MSOP), but, due to changes in operation, a registration is the only approval required for this source. The proposed facilities, by themselves are exempt from permitting requirements.

Permitted Emission Units and Pollution Control Equipment

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

(a) One (1) auxiliary paint booth, known as AUX1, equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 5S1A in Building 5, capacity: 4 metal hydraulic axle assemblies per hour.

(b) One (1) paint booth main, known as PBM, formerly known as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, capacity: 2 metal hydraulic axle assemblies per hour.

(c) One (1) propane fired paint booth prime coat curing oven, known as PBPCCO, formerly known as main booth curing oven (MBCO), exhausted through stack 4S4A in Building 4, heat input capacity: 0.8 million British thermal units per hour.

(d) One (1) propane fired evaporator, known as EVAP1, exhausted through stack 4S6A in Building 4, heat input capacity: 0.395 million British thermal units per hour.

(e) One (1) propane fired space heater, known as SH1, exhausted through stack 2S3A in Building 2, heat input capacity: 0.130 million British thermal units per hour.

(f) One (1) propane fired dry off oven, known as DO1, exhausted through stack 4S1A in Building 4, heat input capacity: 0.8 million British thermal units per hour.

(g) Seven (7) propane fired space heaters, known as CRVT2:#1 - #7, exhausted through stack 5S2A in Building 5, heat input capacity: 0.42 million British thermal units per hour, each.

(h) Eight (8) propane fired space heaters, known as CRVT3:#1 - #8, exhausted through stack 5S3A in Building 5, heat input capacity: 0.48 million British thermal units per hour, each.

(i) Eight (8) propane fired space heaters, known as CRVT4:#1 - #8, exhausting to stack 5S4A in Building 5, heat input capacity: 0.48 million British thermal units per hour, each.

(j) Two (2) propane fired space heaters, known as MSH1 and MSH2, exhausted through stacks 2S1A and 2S2A in Building 5, heat input capacity: 0.13 million British thermal units per hour, each.

(k) One (1) propane fired space heater, known as REZ1, exhausted through stack 4S4A in Building 4, heat input capacity: 0.40 million British thermal units per hour.

(l) One (1) propane fired space heater, known as REZ2, exhausted through stack 5S8A in Building 5, heat input capacity: 0.40 million British thermal units per hour.

(m) One (1) propane fired space heater, known as REZ3, exhausted through stack 5S5A in Building 5, heat input capacity: 0.40 million British thermal units per hour.

(n) One (1) propane fired immersion tube heater, known as WTS1B, exhausted through stack 4S1A in Building 4, heat input capacity: 1.50 million British thermal units per hour.

(o) One (1) wash tank washer entrance and exit, known as WTEN and WTEX, exhausted through stacks 4S1B and 4S1C, respectively, in Building 4, capacity: 8.68 pounds per hour of washing solution, total.

(p) One (1) cold cleaner degreaser for drive assemblies, known as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, capacity: 4.91 gallons of mineral spirts per day.

(q) One (1) cold cleaner degreaser for hose assemblies, known as HACD1, constructed before July 1, 1990, but after January 1, 1980, exhausted through stack 5S6A in Building 5, capacity: 1.68 gallons of mineral spirits per day

(r) Twenty-Six (26) Metal Inert Gas (MIG) welding stations, known as MIG1 - MIG21 & MIG 23 - MIG27 with MIG1 - MIG15, MIG21 and MIG23 - MIG26 located in Building 5, MIG16 located in Building 4, MIG17 located in Building 3, and MIG18 - MIG20 and MIG 27 located in Building 2, using ER70S-3 and EA3K welding wire, capacity: five (5) pounds per hour of welding wire, each.

(s) One (1) stick welding station, know as SW1 located in Building 3, capacity: 0.53 pounds per hour of welding rod.

(t) One (1) oxyacetylene flame cutting table, known as FC1, located in Building 5, with a rate of thirty-six (36) inches per minute at a three (3) inch thickness.

(u) One (1) laser cutting station, known as LC1, located in Building 5, with a rate of one hundred (100) inches per minute at a five tenths (0.5) inch thickness.

Unpermitted Emission Units and Pollution Control Equipment

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

New Emission Units and Pollution Control Equipment

The source consists of the following new facilities/units:

(a) One (1) propane fired paint booth main curing oven, known as PBMCO, exhausted through stack 4S8A in Building 4, heat input capacity: 1.5 million British thermal units per hour.

(b) One (1) paint booth for prime coat, known as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, capacity: 2 metal hydraulic axle assemblies per hour.

Existing Approvals

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

CP 181-5227-00031, issued on August 27 1996

All conditions from previous approvals were incorporated into this permit except the following:

(a) CP 181-5227-00031, issued on August 27 1996;

Operation Condition #3: That pursuant to 326 IAC 6-3 (Process Operations), the particulate matter (PM) emissions due to welding operations shall not exceed the allowable emission rate of 1.23 pounds per hour.

Reason not incorporated: A different process weight rate was used for the MIG welding stations. This weight rate incorporates five (5) pounds of welding wire per station and the total weight of materials that are processed at the welding stations.

(b) CP 181-5227-00031, issued on August 27 1996;

Operation Condition #5: That pursuant to 326 IAC 8-2-9 (Miscellaneous Metal coatings Operations) the volatile organic compound (VOC) content of coating applied to metal hydraulic equipment components shall be limited to 3.5 pounds of VOC per gallon of coating, less water, as applied by the coating applicator for an air dried or forced warm air dried coating system at temperatures up to 95 degrees Celsius. The Main Paint Booth may operate at all times and the Auxiliary Paint Booth may operate provided that the ratio of gallons used per day in the Auxiliary Paint Booth to gallons used per day in the Main Paint Booth does not exceed 0.11. However, pursuant to 326 IAC 8-1-2 (7), if the ratio exceeds 0.11, the source may comply with the 326 IAC 8-2-9 VOC limit by using a daily volume-weighted average of all the coatings applied by both the Main Paint Booth and Auxiliary Paint Booth applicators using Equation 1.

Reason not incorporated: This source will comply with 326 IAC 8-2-9 by using a daily volume weighted average of all coatings applied by both paint booth main (PBM) and Auxiliary Paint Booth (AUX1).

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
4S3A	Paint Booth Main (PBM)	27	2.8	12800	68
4S8A	Paint Booth Main Cure Oven (PBMCO)	30	1.0	1100	200
4S7A	Paint Booth Prime Coat (PBPC)	27	2.8	12800	68
4S4A	Paint Booth Prime Coat Cure Oven (PBPCCO)	30	0.5	307	160
5S1A	Paint Booth Auxiliary (AUX)	30	2.8	7040	72
4S1A	Wash Tank Stage I Burner (WTS1B)	27	0.67	616	714
4S1B	Wash Tank Entrance (WTEN)	27	2.0	4766	85
4S1C	Wash Tank Washer Exit (WTEX)	27	2.0	4869	85
4S2A	Dryoff Oven 1 (DO1)	27	0.5	348	165
4S6A	Evaporator (EVAP1)	27	0.42	374	100
5S7A	Parts Washer Cold Degreaser (PWCD1)	30	1.0	1000	75
5S6A	Hose Assembly Cold Degreaser (PWCD1)	30	1.0	500	75
2S3A	Space Heater (SH1)	16	0.5	23	100
5S2A	Space Heater Tube 2 Units 1 through 7 (CRVT2 #1 - #7)	16	0.83	522	100
5S3A	Space Heater Tube 3 Units 1 through 8 (CRVT3 #1 - #8)	16	0.83	682	100
5S4A	Space Heater Tube 4 Units 1 through 8 (CRVT4- #1 - #8)	16	0.83	682	100
2S1A	Modine Space Heater #1 (MSH 1)	16	0.5	23	100
2S2A	Modine Space Heater #2 (MSH 2)	16	0.5	23	100
4S5A	REZNOR Space Heater #1 (REZ 1)	27	0.83	71	100

5S8A	REZNOR Space Heater #2 (REZ 2)	16	0.83	71	100
5S5A	REZNOR Space Heater #3 (REZ 3)	30	0.83	71	100

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. 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 March 26, 2001, with additional information received on April 3 and 25, 2002.

Emission Calculations

See pages 1 through 8 of 8 of Appendix A of this document for detailed emissions calculations.

Unrestricted Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit 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 tables represent the unrestricted potential to emit of the entire source.

Pollutant	**Potential To Emit** (tons/year)
PM	23.7
PM_{10}	23.7
SO_2	1.07
VOC	24.1
CO	2.65
NO_X	15.6

HAPS	Potential To Emit (tons/year)
Xylene	4.39
MIBK	2.84
MEK	0.107
Toluene	2.38
Ethyl Benzene	0.794
Glycol Ethers	6.83
Cobalt	0.155
Lead	1.19
Manganese	0.255
Nickel	0.005
Chromium	0.013
TOTAL	19.0

(a) The potentials to emit (as defined in 326 IAC 2-5.1-2) of PM and PM10 are equal to or less than twenty-five (25) tons per year and greater than five (5) tons per year. In addition, the potential to emit SO_2, VOC, and NO_X are equal to or less than twenty-five (25) tons per and greater than ten (10) tons per year and the potential to emit CO is equal to or less than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination HAPS is less than or equal to twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Paint Booth Prime Coat (PBPC)	0.055	0.055	-	2.57	-	-	Single 2.44 Total 2.44
Paint Booth Main (PBM) and Auxiliary Paint Booth (AUX1)	0.214	0.214	-	12.7	-	-	Single 4.39 Total 16.2
Two (2) cold cleaner degreasers (PWCD1 and HACD1)	-	-	-	8.66	-	-	-
One (1) evaporator (EVAP1)	0.011	0.011	0.025	0.005	0.061	0.359	-
Paint booth main curing oven, paint booth prime coat curing oven and Dry Off Oven (PBMCO, PBPCCO, and DO1)	0.089	0.089	0.193	0.037	0.475	2.82	-
One (1) Fire Immersion Tube (WTS1B)	0.043	0.043	0.093	0.018	0.230	1.36	-
Twenty-nine (29) space heaters (SH1, MSH1 & 2, REZ1,2,& 3, CRVT2 #1 - #7, CRVT3 #1 - #8, and CRVT3 #1 - #8)	0.348	0.348	0.760	0.146	1.88	11.10	-
Welding and Thermal Cutting (MIG 1 - 21 & 23 - 27, SW1, FC1, and LC1)	9.78	9.78	-	-	-	-	0.243

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM_{10}	SO_2	VOC	CO	NO_X	HAPS
Total Emissions	10.5	10.5	1.07	24.1	2.65	15.6	Single less than 10 Total less than 25

County Attainment Status

The source is located in White County.

Pollutant	Status
PM_{10}	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. White County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) White County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	10.5
PM_{10}	10.5
SO_2	1.07
VOC	24.1
CO	2.65
NO_X	15.6

(a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of two hundred-fifty (250) tons per year or more, and it is not in one of the 28 listed source categories.

(b) These emissions were based on calculations presented in Appendix A.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit R 181-14211-00031, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than one hundred (100) tons per year,

(b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and

(c) any combination of HAPS is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR 63 Subpart T, because this source does not use halogenated solvents in the two (2) cold cleaner degreasers, PWCD1 and HACD1.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in White County and the potential to emit PM, PM_{10}, VOC, NO_X, CO, and SO_2 are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

325 IAC 2-6.1 (Minor Source Operating Permit)

The potential to emit PM, PM_{10}, SO_2, VOC, and NO_X, from the entire source is less than twenty-five (25) tons per year and CO is less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-6.1 are not applicable.

326 IAC 5-1 (Opacity)

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%) 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 Part 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.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

(a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the three (3) paint booths, known as paint both main (PBM), paint booth prime coat (PBPC), and auxiliary paint booth (AUX1) shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

The dry filters shall be in operation at all times the three (3) paint booths known as paint both main (PBM), paint booth prime coat (PBPC), and auxiliary paint booth (AUX1) are in operation, in order to comply with this limit.

(b) The allowable PM emission rate for the twenty-six (26) MIG welding stations, known as MIG1 - 21 & MIG 23 - 27, shall not exceed 17.5 pounds of PM per hour when operating at a process weight rate of 8.68 tons per hour, total. The potential to emit of the twenty-six (26) MIG welding stations 0.676 pounds of PM per hour. Therefore, the twenty-six (26) MIG welders will comply with this limit. This limit is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(c) The allowable PM emission rate for the one (1) stick welder, known as SW1, shall not exceed 4.40 pounds of PM per hour when operating at a process weight rate of 1.11 tons per hour. The potential to emit of the one (1) stick welding station is 0.02 pounds of PM per hour. Therefore, the one (1) stick welder will comply with this limit. This limit is based on the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(d) The allowable PM emission rate for the one (1) laser cutting station, known as LC1, shall not exceed 42.7 pounds of PM per hour when operating at a process weight rate of 40.8 tons per

hour. The potential to emit of the one (1) laser cutting station is 0.487 pounds of PM per hour. Therefore, the one (1) laser cutting station will comply with this limit. This limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

(e) The allowable PM emission rate for the one (1) flame cutting station, known as FC1, shall not exceed 50.0 pounds of PM per hour when operating at a process weight rate of 88.0 tons per hour. The potential to emit of the one (1) laser cutting station is 1.05 pounds of PM per hour. Therefore, the one (1) flame cutting station will comply with this limit. This limit is based on the following equation:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

326 IAC 8-2-9 (Miscellaneous Metal Coating)

(a) The one (1) proposed paint booth, known as paint booth prime coat (PBPC) is not subject to 326 IAC 8-2-9 because the potential to emit VOC is less than fifteen (15) pounds per day.

(b) The two (2) paint booths, known as paint booth main (PBM) and auxiliary paint booth (AUX1) are subject to 326 IAC 8-2-9 because the two (2) paint booths were constructed after July 1990, the potential to emit of VOC is greater than fifteen (15) pounds per day and the surface coating of metal hydraulic drive axle assemblies takes place at these booths. The two (2) paint booths shall be limited to the following:

Three and five-tenths (3.5) pounds of VOC per gallon of coating less water, for air dried and forced warm air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the one (1) auxiliary paint booth (AUX1) is not in compliance with this requirement. The source shall comply with this rule by calculating the daily volume weighted average of VOC content for the two (2) paint booths, known as paint booth main (PBM) and auxiliary paint booth (AUX1), using the following formula, where n is the number of coatings (c):

$$\frac{\sum_{c=1}^{c=n} \text{coating c (gal)} \times \text{VOC content of c (lbs/gal, less water)}}{\sum_{c=1}^{c=n} 3}$$

3 coating c (gal)
c =1

326 IAC 8-3-2 (Cold Cleaner Operation)

The two (2) cold cleaner degreasers, known as HACD1 and PWCD1, were constructed after January 1, 1980 in White County. Therefore the requirements of 326 IAC 8-3-2 are applicable. The Permittee shall do the following while operating the two (2) cold cleaners:

(a) equip the cleaner with a cover;

(b) equip the cleaner with a facility for draining cleaned parts;

(c) close the degreaser cover whenever parts are not being handled in the cleaner;

(d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) provide a permanent, conspicuous label summarizing the operating requirements;

(f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Operation)

(a) The one (1) cold cleaner degreaser known as HACD1, was constructed before July 1, 1990 in White County. Therefore, the requirements are not applicable to this degreaser.

(b) The cold cleaner degreaser, known as PWCD1 was constructed after July 1, 1990 and does not have a remote solvent reservoir. Therefore, the requirements of 326 IAC 8-3-5 are applicable to the cold cleaner degreaser, known as PWCD1. The Permittee shall ensure that the following control equipment requirements are met while operating cold cleaner PWCD1:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) the solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));

(B) the solvent is agitated; or

(C) the solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements

outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

The Permittee ensure that the following operating requirements are met:

(6) Close the cover whenever articles are not being handled in the degreaser.

(7) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(8) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Conclusion

The operation of this metal hydraulic axle assemblies source shall be subject to the conditions of the attached proposed Registration Permit 181-14211-00031.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

Proposed New Emission Unit's Potential to Emit

Material	Density (lbs/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Type of Product, and Material Being Coated
PBPC																	
Primer:																	
PNT202 Hardener	8.96	40.80%	32.2%	8.6%	34.7%	55.00%	0.08380	2.000	1.18	0.77	0.13	3.10	0.57	1.95	1.40	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT220 Red Oxide	12.10	38.40%	21.4%	17.0%	31.3%	41.60%	0.08380	2.000	2.99	2.06	0.34	8.27	1.51	2.74	4.94	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT312 Breakthrough Equip. Cleaner	8.04	100.00%	66.4%	33.6%	64.1%	0.00%	0.04500	2.000	7.51	2.70	0.24	5.83	1.06	0.00	N/A	100%	
								PM	Control Efficiency	98.00%						
									Worst Case" Uncontrolled Subtotal		**0.59**	**14.10**	**2.57**	**2.74**		
									Worst Case" Controlled Subtotal		**0.59**	**14.10**	**2.57**	**0.055**		

Existing Emission Units' Potential to Emit

Material	Density (lbs/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (units/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)	lbs VOC/gal solids	Transfer Efficiency	Type of Product, and Material Being Coated
PBM																	
Topcoats:																	
PNT212 Gloss Black	8.68	77.35%	64.3%	13.0%	67.0%	15.73%	0.35600	2.000	3.42	1.13	0.80	19.30	3.52	3.07	7.18	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT214 JDTC Satin Black	9.02	67.34%	55.3%	12.0%	59.9%	25.96%	0.35600	2.000	2.70	1.08	0.77	18.50	3.38	4.59	4.17	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT282 Umbra Gray	8.75	66.02%	57.0%	9.0%	59.8%	29.79%	0.35600	2.000	1.96	0.79	0.56	13.46	2.46	4.64	2.64	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT312 Breakthrough Equip. Cleaner	8.04	100.00%	66.4%	33.6%	64.1%	0.00%	0.04500	2.000	7.51	2.70	0.24	5.83	1.06	0.00	N/A	100%	
AUX1																	
Primer:																	
PNT 120 Red Oxide	9.57	42.90%	0.0%	42.9%	0.0%	36.90%	0.00930	4.000	4.11	4.11	0.15	3.67	0.67	0.45	11.13	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
Topcoats:																	
PNT 100 Flat Black	8.80	61.40%	0.0%	61.4%	0.0%	25.50%	0.07850	4.000	5.40	5.40	1.70	40.72	7.43	2.34	21.19	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 102 Gloss Black	7.50	63.80%	0.0%	63.8%	0.0%	27.20%	0.07850	4.000	4.79	4.79	1.50	36.06	6.58	1.87	17.59	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 104 Flat Black	8.68	58.30%	0.0%	58.3%	0.0%	27.60%	0.07850	4.000	5.06	5.06	1.59	38.14	6.96	2.49	18.33	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 106 Black	11.94	31.70%	0.0%	31.7%	0.0%	48.40%	0.07850	4.000	3.78	3.78	1.19	28.52	5.21	5.61	7.82	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 108 Acrylic Modifier	8.27	39.20%	0.0%	39.2%	0.0%	56.10%	0.07850	4.000	3.24	3.24	1.02	24.43	4.46	3.46	5.78	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 122 Red Enamel	8.31	56.80%	0.0%	56.8%	0.0%	35.00%	0.07850	4.000	4.72	4.72	1.48	35.57	6.49	2.47	13.49	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 124 Massey Red	9.13	57.90%	0.0%	57.9%	0.0%	34.10%	0.07850	4.000	5.29	5.29	1.66	39.84	7.27	2.64	15.50	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 140 JD Yellow	7.75	61.60%	0.0%	61.6%	0.0%	26.70%	0.07850	4.000	4.77	4.77	1.50	35.98	6.57	2.05	17.88	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 142 NH Yellow	8.07	58.10%	0.0%	58.1%	0.0%	29.00%	0.07850	1.000	4.69	4.69	0.37	8.83	1.61	0.58	16.17	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 160 JD Green	7.49	63.60%	0.0%	63.6%	0.0%	27.00%	0.07850	1.000	4.76	4.76	0.37	8.97	1.64	0.47	17.64	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 162 Class Green	8.29	59.60%	0.0%	59.6%	0.0%	29.50%	0.07850	1.000	4.94	4.94	0.39	9.31	1.70	0.58	16.75	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 180 Silver	7.71	63.80%	0.0%	63.8%	0.0%	27.80%	0.07850	1.000	4.92	4.92	0.39	9.27	1.69	0.48	17.69	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
PNT 182 Class Orange	9.52	35.40%	0.0%	35.4%	0.0%	53.50%	0.07850	1.000	3.37	3.37	0.26	6.35	1.16	1.06	6.30	50%	Paint: Unpainted Metal Hydraulic Drive Assemblies
Note: all properties of the materials are "as applied"to the substrate for Paints in AUX1								PM	Control Efficiency	98.00%							
									Worst Case" Uncontrolled Subtotal		**2.90**	**69.51**	**12.69**	**10.69**		
State Potential Emissions		**Add worst case coating to all solvents**							**Worst Case" Controlled Subtotal**		**2.90**	**69.51**	**12.69**	**0.214**			

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lbs/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lbs/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lbs/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/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

Entire Source's Potential to Emit From Painting

	Potential VOC (pounds per hour)	Potential VOC (pounds per day)	Potential VOC (tons per year)	Particulate Potential (tons/yr)
Entire Source "Worst Case" Uncontrolled Total:	**3.48**	**83.61**	**15.26**	**13.42**
Entire Source "Worst Case" Controlled Total:	**3.48**	**83.61**	**15.26**	**0.268**

Appendix A: Emission Calculations
HAP Emission Calculations

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

New Emission Unit HAPs Emissions

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % MIBK	Weight % MEK	Weight % Toulene	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Cobalt	Weight % Lead Compound	Xylene Emissions (tons/yr)	MIBK Emissions (tons/yr)	MEK Emissions (tons/yr)	Toulene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Cobalt Emissions (tons/yr)	Lead Compound Emissions (tons/yr)
PBPC																			
Primer:																			
PNT202 Hardener (for Primer)	8.96	0.08380	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PNT220 Red Oxide Primer	12.10	0.08380	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	16.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	1.42	0.00	0.00
PNT312 Breakthrough Equip. Cleaner	8.04	0.04500	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	32.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00
											"Worst Case" Individual Subtotal	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.44**	**0.00**	**0.00**
											"Worst Case" Overall Subtotal	**2.44**							

Existing Emission Units HAPs Emissions

Material	Density (lbs/gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % MIBK	Weight % MEK	Weight % Toulene	Weight % Ethyl Benzene	Weight % Glycol Ethers	Weight % Cobalt	Weight % Lead Compound	Xylene Emissions (tons/yr)	MIBK Emissions (tons/yr)	MEK Emissions (tons/yr)	Toulene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Cobalt Emissions (tons/yr)	Lead Compound Emissions (tons/yr)
PBM																			
Topcoats:																			
PNT212 Gloss Black	8.68	0.35600	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	7.00%	0.21%	0.00%	0.00	0.00	0.00	0.00	0.00	1.89	0.057	0.00
PNT214 JDTC Satin Black	9.02	0.35600	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	12.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	3.38	0.00	0.00
PNT282 Umbra Gray	8.75	0.35600	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	9.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	2.46	0.00	0.00
PNT312 Breakthrough Equip. Cleaner	8.04	0.04500	2.000	0.00%	0.00%	0.00%	0.00%	0.00%	32.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	1.01	0.00	0.00
AUX1																			
Primer:																			
PNT 120 Red Oxide	9.73	0.00870	4.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PNT 302 Xylene Diluent	7.17	0.00060	4.000	85.00%	0.00%	0.00%	0.00%	15.00%	0.00%	0.00%	0.00%	0.06	0.00	0.00	0.00	0.011	0.00	0.00	0.00
Topcoats:																			
PNT 100 Flat Black	8.91	0.07348	4.000	33.00%	0.00%	0.00%	12.00%	6.00%	0.00%	0.00%	0.00%	3.79	0.00	0.00	1.38	0.688	0.00	0.00	0.00
PNT 102 Gloss Black	7.52	0.07348	4.000	1.00%	0.00%	0.00%	8.00%	0.00%	0.00%	0.00%	0.00%	0.10	0.00	0.00	0.77	0.00	0.00	0.00	0.00
PNT 104 Flat Black	8.78	0.07348	4.000	33.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%	3.73	0.00	0.00	0.00	0.678	0.00	0.00	0.00
PNT 106 Black	12.27	0.07348	4.000	0.00%	18.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	2.84	0.00	0.00	0.00	0.00	0.00	0.00
PNT 108 Acrylic Modifier	8.35	0.07348	4.000	30.00%	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	3.22	0.00	0.00	0.00	0.537	0.00	0.00	0.00
PNT 122 Red Enamel	8.39	0.07348	4.000	29.99%	0.00%	0.99%	0.00%	4.99%	0.00%	0.90%	0.00%	3.24	0.00	0.107	0.00	0.539	0.00	0.097	0.00
PNT 124 Massey Red	9.26	0.07348	4.000	25.00%	0.00%	0.00%	20.00%	0.00%	0.00%	0.00%	10.00%	2.98	0.00	0.00	2.38	0.00	0.00	0.00	1.19
PNT 140 JD Yellow	7.79	0.07348	4.000	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.00
PNT 142 FH Yellow	8.13	0.07348	1.000	0.00%	0.00%	0.00%	5.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00
PNT 160 JD Green	7.51	0.07348	1.000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PNT 162 Class Green	8.37	0.07348	1.000	1.00%	0.00%	0.00%	7.00%	0.00%	0.00%	0.00%	0.00%	0.03	0.00	0.00	0.19	0.00	0.00	0.00	0.00
PNT 180 Silver	7.75	0.07348	1.000	14.00%	0.00%	0.00%	19.00%	3.00%	0.00%	0.00%	0.00%	0.35	0.00	0.00	0.47	0.075	0.00	0.00	0.00
PNT 182 Class Orange	9.68	0.07348	1.000	19.99%	9.99%	0.00%	0.00%	0.00%	0.00%	0.99%	0.00%	0.62	0.31	0.00	0.00	0.00	0.00	0.031	0.00
PNT 302 Xylene Diluent	7.17	0.00502	4.000	85.00%	0.00%	0.00%	0.00%	15.00%	0.00%	0.00%	0.00%	0.54	0.00	0.00	0.00	0.095	0.00	0.00	0.00
											"Worst Case" Individual Subtotal	**4.39**	**2.84**	**0.107**	**2.38**	**0.794**	**4.39**	**0.154**	**1.19**
											"Worst Case" Overall Subtotal	**16.2**							

Note: all properties of the materials are "as supplied" by the manufacturer

HAPS emission rate (tons/yr) = Density (lbs/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Entire Source HAPs Emissions From Painting

	Xylene Emissions (tons/yr)	MIBK Emissions (tons/yr)	MEK Emissions (tons/yr)	Toulene Emissions (tons/yr)	Ethyl Benzene Emissions (tons/yr)	Glycol Ethers Emissions (tons/yr)	Cobalt Emissions (tons/yr)	Lead Compound Emissions (tons/yr)
Entire Source "Worst Case" Individual Total:	**4.39**	**2.84**	**0.107**	**2.38**	**0.794**	**6.83**	**0.154**	**1.19**
Entire Source "Worst Case" Overall Total:	**18.7**							

Appendix A: Emission Calculations
Propane Ovens

Company Name: **Tuthill Transport Technologies**
Address City IN Zip: **9098 West 800 South, Brookston, Indiana 47923**
Registration: **R 181-14211**
Plt ID: **181-00031**
Reviewer: **Michael S. Schaffer**
Date: **March 26, 2001**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 86.5 x S S = Sulfur Content =	1.50%
3.10	296.8		

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.6	0.6	1.3 *(86.5S)*	19.0	0.25	3.2
Potential Emission in tons/yr	0.089	0.089	0.193	2.82	0.037	0.475

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

Ovens	**Rating in mmBtu's/hr**
PBMCO	1.50
PBPCCO	0.800
DO1	0.800
Total:	**3.10**

Methodology

1 gallon of LPG has a heating value of 94,000 Btu
1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)
Fires 6.22 SCC 01-010-02
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu
Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Appendix A: Emission Calculations
Propane Space Heaters

Company Name: **Tuthill Transport Technologies**
Address City IN Zip: **9098 West 800 South, Brookston, Indiana 47923**
Registration: **R 181-14211**
Plt ID: **181-00031**
Reviewer: **Michael S. Schaffer**
Date: **March 26, 2001**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 86.5 x S S = Sulfur Content =
12.21	1169.0	1.50%

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.6	0.6	1.3 *(86.5S)*	19.0	0.25	3.2
Potential Emission in tons/yr	0.351	0.351	0.758	11.1	0.146	1.87

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

Space Heaters	**Rating in mmBtu's/hr**
REZ 1,2, and 3	0.400, each
MSH1 & 2	0.130, each
CRVT2 #1 - #7	0.420, each
CRVT3 #1 - #8	0.480, each
CRVT3 #1 - #8	0.480, each
SH1	0.130
Total:	**12.21**

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Fires 6.22 SCC 01-010-02

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Appendix A: Emission Calculations
Propane Tube Heater

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

Unit: One (1) Fire Immersion Tube Heater (WTS1B)

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 86.5 x S S = Sulfur Content =
1.50	144	1.50%

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.6	0.6	1.3 *(86.5S)*	19.0	0.25	3.2
Potential Emission in tons/yr	0.043	0.043	0.093	1.36	0.018	0.230

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Fires 6.22 SCC 01-010-02

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Appendix A: Emission Calculations
Propane Evaporator

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

Unit: One (1) Evaporator (EVAP1)

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	SO2 Emission factor = 86.5 x S S = Sulfur Content =	1.50%
0.395	37.8		

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.6	0.6	1.3 *(86.5S)*	19.0	0.25	3.2
Potential Emission in tons/yr	0.011	0.011	0.025	0.359	0.005	0.061

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Fires 6.22 SCC 01-010-02

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Appendix A: Emission Calculations
Degreasing Operations
VOC and HAP Emission Calculations

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

Material	Maximum Consumption (lbs/yr)	Weight % VOC	VOC Emissions (tons/yr)	Total HAPs Emissions (tons/yr)	Solvent Used
Degreasing					
Parts Wash Cold Cleaner Degreaser (PWCD1)	13323	100%	6.66	0.000	Mineral Spirits
Hose Assembly Cold Degreaser (HACD1)	4000	100%	2.00	0.000	Mineral Spirits
TOTALS:	**(tons/yr):**		**8.66**	0.000	

Total State Potential Emissions

METHODOLOGY

VOC/HAPs emission rate (tons/yr) = Material Usage (lbs/hr) * Weight % VOC/HAP * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Welding and Thermal Cutting

Company Name: Tuthill Transport Technologies
Address City IN Zip: 9098 West 800 South, Brookston, Indiana 47923
Registration: R 181-14211
Plt ID: 181-00031
Reviewer: Michael S. Schaffer
Date: March 26, 2001

PROCESS	Number of Stations	Max. electrode consumption per station		EMISSION FACTORS * (lb pollutant / lb electrode)					EMISSIONS (lb/hr)					TOTAL HAPS (lb/hr)
WELDING		(lbs/hr)		PM = PM10	Mn	Ni	Cb	Cr	PM = PM10	Mn	Ni	Cb	Cr	
MIG1-21 & MIG23-27														
Metal Inert Gas (MIG)(ER70S-3)	26	5		0.005	0.0003	0.000001	0.000001	0.000001	0.676	0.041	0.0001	0.0001	0.0001	0.042
Metal Inert Gas (MIG)(EA3K)	26	5		0.005	0.0003	0.000001	0.000001	0.000001	0.676	0.041	0.0001	0.0001	0.0001	0.042
SW1														
Stick (E6011 electrode)	1	0.53		0.038	0.010	0.000005	0.000001	0.000005	0.020	0.005	0.000003	0.000001	0.000003	0.005
	Number of Stations	Max. Metal Thickness Cut	Max. Metal Cutting Rate	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)					EMISSIONS (lbs/hr)					TOTAL HAPS (lb/hr)
FLAME AND LASER CUTTING		(in.)	(in./minute)	PM = PM10	Mn	Ni	Cb	Cr	PM = PM10	Mn	Ni	Cb	Cr	
FC1 and LC1														
Oxyacetylene (FC1)	1	3	36	0.1622	0.0005	0.0001	0.00	0.0003	1.05	0.003	0.001	0.000	0.002	0.006
Laser Cutting Table (LC1)	1	0.5	100	0.1622	0.0005	0.0001	0.00	0.0003	0.487	0.002	0.0003	0.000	0.001	0.003
EMISSION TOTALS									PM = PM10	Mn	Ni	Cb	Cr	Total HAPs
Potential Emissions lbs/hr									2.23	0.051	0.001	0.0001	0.003	0.056
Potential Emissions lbs/day									53.6	1.23	0.026	0.003	0.071	1.33
Potential Emissions tons/year									**9.78**	0.225	0.005	0.001	0.013	0.243

Note: for MIG EA3K lbs/hr per station was atained by dividing the 130lbs/hr total by twenty-six (26) stations

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.
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/day x 1 ton/2,000 lbs.
Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).
Welding and other flame cutting emission factors are from an internal training session document.
See AP-42, Chapter 12.19 for additional emission factors for welding.