

Rick L. Odle
Talbert Manufacturing Inc.
300 South 1450 West
Francesville, IN 47946

Re: Two Source Specific Operating Agreements and an
Exemption: S 131-14660-00019

Dear Mr. Odle:

Your permit application for new facilities at the existing Talbert Manufacturing Inc. plant at Francesville, Indiana was received on July 17, 2001 and has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-9, it has been determined that the additional surface coating operation, to be located at 300 South 1450 West in Francesville, Indiana 47946, has met the criteria required to obtain a Source Specific Operating Agreement. The terms and conditions of the Source Specific Operating Agreement No. 131-7502-00019 for the existing surface coating operation will be incorporated into this new Source Specific Operating Agreement. Based on the data submitted and the provisions of 326 IAC 2-9-1(g), it has been determined that the abrasive (shot blast) operation, to be located at the same site, has met the criteria required to obtain another Source Specific Operating Agreement. In addition, based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the new welding, oxyacetylene cutting, sawing, and space heating operations to be located at the Francesville, Indiana plant, are classified as exempt from air pollution permit requirements:

The two (2) Source Specific Operating Agreements and the Exemption have been combined in this document.

Pursuant to IC 4-21.5-3-5(a) and (b), approval of the two (2) Source Specific Operating Agreements shall not be effective until fifteen (15) days from the date of this letter.

- (1) The surface coating facilities and processes of this source are hereby granted the Source Specific Operating Agreement provided that the following requirements of 326 IAC 2-9 are satisfied:

SSOA: Industrial or Commercial Surface Coating Operations not subject to 326 IAC 8-2: [326 IAC 2-9-2.5]

1. The total amount of VOC delivered to all surface coating operations at the source shall not exceed two (2) tons per month.
2. The total amount of a single HAP shall not exceed eighth hundred and thirty three (833) pounds per month, and that of any combination of HAP shall not exceed one (1) ton per month.
3. The source shall keep the following records of the surface coating operation:
 - (a) the number of gallons of each solvent containing material used,
 - (b) the VOC and HAP content (pounds per gallon) of each solvent containing material used,
 - (c) material safety data sheets (MSDS) for all VOC and HAP containing material used,
 - (d) a monthly summation of VOC and HAP usage, and
 - (e) purchase orders and invoices for each solvent containing material used.

These records shall be kept for a minimum period of five (5) years, and made available upon request of the Office of Air Quality (OAQ).

4. Particulate matter emissions shall be controlled by a dry filter system or an equivalent control device. The source shall operate the particulate control device in accordance with the manufacturer's specifications. A source shall be considered in compliance with this requirement provided that the overspray is not visibly detectable at the exhaust or accumulated at the rooftops or on the ground.
 5. Include with the annual notice required in Condition 1 of the General Requirements Section, an inventory listing of the monthly volatile organic compound (VOC) and hazardous air pollutant (HAP) totals, and the total VOC and HAP emissions for the previous twelve (12) months.
- (2) The abrasive cleaning facilities and processes of this source are hereby granted the Source Specific Operating Agreement provided that the following requirements of 326 IAC 2-9 are satisfied:

SSOA: Abrasive Cleaning Operation: [326 IAC 2-9-5]

1. The units of the abrasive cleaning operation shall be totally enclosed.
 2. The particulate matter (PM) emissions from the abrasive cleaning operation shall not exceed one-hundredth (0.01) grain per actual cubic foot of outlet air.
 3. The exhaust air flow rate of the abrasive cleaning operation shall not exceed forty thousand (40,000) actual cubic feet of outlet air per minute.
 4. The source shall maintain records of the types of air pollution control devices utilized at the source and the abrasive cleaning operation, and the operation and maintenance manuals for those devices.
- (3) The surface coating and abrasive cleaning operations are also required to satisfy the following conditions of 326 IAC 2-9-1: (**SSOA: General Provisions: [326 IAC 2-9-1]**)

1. The source shall provide an annual notice to the commissioner, stating that the source is in operation, and certifying that its operations are in compliance with the requirements of this Source Specific Operating Agreement. The above annual notice shall be submitted to:
**Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015**

no later than January 30 of each year, with the annual notice being submitted in the format attached.

2. Any exceedance of any requirement contained in this operating agreement shall be reported, in writing, within one (1) week of its occurrence. Said report shall include information on the actions taken to correct the exceedance, including measures to reduce emissions, in order to comply with the established limits. If an exceedance is the result of a malfunction, then the provisions of 326 IAC 1-6 apply.
3. Pursuant to 326 IAC 2-9-1(i), the owner or operator is hereby notified that this operating agreement does not relieve the permittee of the responsibility to comply with the provisions of any applicable federal, state, or local rules, or any New Source Performance Standards

(NSPS), 40 CFR Part 60, or National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61.

- (4) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity from the source at Francesville, Indiana, 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 continuous opacity monitor in a six (6) hour period.
- (5) Pursuant to 326 IAC 6-3-2 (Process operations: particulate emission limitations), the welding, oxyacetylene cutting, and sawing operations shall be subject to the conditions in 326 IAC 6-3-2. The particulate matter (PM) emissions 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:

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

For the sawing operation, with a maximum process weight of 400 lb/hr, the PM emissions rate is limited to 1.4 lb/hr.

For each of the twelve (12) welding operations, with a process weight rate of less than one hundred (100) pounds per hour, the PM emissions rate is limited to 0.551 lb/hr.

For the cutting operation, with a process weight of seven hundred (700) lb/hr (for a maximum cutting speed of 7in/min, and weight of 20 lb/ft for 1 in plate), the allowable rate of PM emissions is limited to 2.0 lb/hr.

Any change or modification which will alter operations in such a way that it will no longer comply with the applicable restrictions and conditions of this operating agreement, must obtain the appropriate approval from the Office of Air Quality (OAQ) under 326 IAC 2-5.1, 326 IAC 2-5.5, 326 IAC 2-6.1, 326 IAC 2-2, 326 IAC 2-3, 326 IAC 2-7, and 326 IAC 2-8, before such change may occur.

Sincerely,

Paul Dubenetzky, Chief
Permit Branch
Office of Air Quality

mdm

cc: File - Pulaski County
Pulaski County Health Department
Air Compliance Section - Wanda Stanfield
Permit Tracking - Janet Mobley
Technical Support & Modeling - Michele Boner
Compliance Data Section - Karen Nowak

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for Two Source Specific Operating
Agreements and an Exemption**

Source Background and Description

Source Name: Talbert Manufacturing Inc.
Source Location: 300 South 1450 West, Francesville, IN 47946
County: Pulaski
SIC Code: 3715
Operation Permit No.: 131-14660-00019
Permit Reviewer: Madhurima D. Moulik

The Office of Air Quality (OAQ) has reviewed an application from Talbert Manufacturing Inc. relating to the construction and operation of new facilities at the existing Talbert Manufacturing Inc. plant located at Francesville, Indiana.

Emission Units and Pollution Control Equipment

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

- (a) Surface coating operation, identified as P1, with a maximum capacity of less than 35 trailers(vehicles) per day.

There are three other insignificant units at the Francesville plant including a gas metal arc welding operation, a shielded metal arc welding operation, and a burn table.

The source wants to add the following emission units and pollution control devices:

- (a) Ten (10) space heater units:
 - 1. One (1) make-up air unit, with maximum capacity of 2.2 MMBtu/hr, identified as H1.
 - 2. Six (6) space heater units, each with maximum capacity of 0.18 MMBtu/hr, identified as H2 through H7.
 - 3. Two (2) radiant heater units, each with maximum capacity of 0.2 MMBtu/hr, identified as H8 and H9.
 - 4. One (1) forced-air furnace, identified as H10, with maximum capacity of 0.20 MMBtu/hr.
- (b) A surface coating operation (paint booth), with maximum capacity of 0.5 units per hour, exhausting to two (2) stacks identified as S3 and S4, equipped with four (4) dry filters with 98% control efficiency.
- (c) A radial arm saw, with maximum processing capacity of 400 lb/hr.
- (d) An enclosed pneumatic blasting operation, maximum capacity of 0.5 unit/hr, equipped with thirty-six (36) exhaust filters with 99.8% control efficiency, exhausting to two (2) stacks identified as S1 and S2.

- (e) A gas metal arc welding operation, maximum capacity of 25 lb welding rod/hr, exhausting to building exhausts identified as V4 and V5.
- (f) A plasma arc oxyacetylene cutting operation, maximum capacity of 7 in/min, exhausting to building exhausts identified as V1 and V3.

Existing Approvals

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

- (a) Source Specific Operating Agreement (SSOA) S 131-7501-00019, issued on December 18, 1996.

All conditions from previous approvals were incorporated into this permit.

Justification for the Source Specific Operating Agreements and Exemption

The Source Specific Operating Agreement No. S 131-7501-00019 for the existing surface coating facility at the Francesville plant will be included in the new Source Specific Operating Agreement for Surface coating operations. The abrasive blasting unit will be issued another Source Specific Operating Agreement pursuant to 326 IAC 2-9-5 [SSOA: abrasive cleaning operations]. The space heating, sawing, gas-cutting and welding operations will be issued an exemption pursuant to 326 IAC 2-1.1-3(d)(1). These three approvals will be combined into one document for the source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the two (2) Source Specific Operating Agreements and the Exemption 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.

A complete application for the purposes of this review was received on July 17, 2001. Additional information was received on August 23, 2001.

Emission Calculations

See Appendix A (pages 1 through 9) of this document for detailed emissions calculations.

Potential To Emit of New Units

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.”

Pollutant	Potential To Emit (tons/year)
PM	134.0
PM-10	116.6
SO ₂	0.0
VOC	19.4
CO	0.4
NO _x	1.7

HAP's	Potential To Emit (tons/year)
Xylene	10.2
Ethylene	2.0
Toluene	1.9
Methyl Ethyl Ketone	7.3
Glycol Ether	2.7
TOTAL	24.8

The potential to emit (as defined in 326 IAC 2-7-1 (29)) of PM-10 is greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7. However, the source has chosen to be covered by two (2) separate SSOAs under 326 IAC 2-9, and an exemption. Therefore, rule 326 IAC 2-7 will not apply.

County Attainment Status

The source is located in Pulaski County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

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) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source has the potential to emit more than one hundred (100) tons per year of VOC. However, pursuant to 326 IAC 2-9-1(b), the source is not subject to 326 IAC 2-6 (Emission Reporting), due to the emissions limits set in the approved Source Specific Operating Agreements.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), 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 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 6-3-2 (Process operations: particulate emission limitations)

The welding, oxyacetylene cutting, and sawing operations shall be subject to the conditions in 326 IAC 6-3-2. The particulate matter (PM) emissions 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:

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

For the sawing operation, with a maximum process weight of 400 lb/hr, the PM emissions rate is limited to 1.4 lb/hr.

For each of the twelve (12) welding operations, with a process weight rate of less than one hundred (100) pounds per hour, the PM emissions rate is limited to 0.551 lb/hr.

For the cutting operation, with a process weight of seven hundred (700) lb/hr (for a maximum cutting speed of 7in/min, and weight of 20 lb/ft for 1 in plate), the allowable rate of PM emissions is limited to 2.0 lb/hr.

State Rule Applicability - Individual Facilities

326 IAC 2-9-2.5 (SSOA: industrial or commercial surface coating operations not subject to 326 IAC 8-2)
The new and existing surface coating operations shall be subject to the conditions in 326 IAC 2-9-2.5 under the Source Specific Operating Agreement for surface coating operations.

326 IAC 2-9-5 (SSOA: abrasive cleaning operations)
The new blasting operation shall be subject to the conditions in 326 IAC 2-9-5 under the Source Specific Operating Agreement for abrasive cleaning operations.

326 IAC 2-4.1 (Major sources of hazardous air pollutants (HAP))
The surface coating operations at the plant will be limited to less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs under the conditions of the Source Specific Operating Agreement. Therefore, 326 IAC 2-4.1 shall not apply.

326 IAC 8-1-6 (General provisions relating to VOC rules: general reduction requirements for new facilities)
The new facilities at the source have the potential to emit less than 25 tons per year of VOCs. Therefore, the conditions in 326 IAC 8-1-6 will not apply.

326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)
Since the surface coating operation at the facility has a production rate of less than thirty-five (35) trucks per day per 8-2-9(b)(4), the surface coating operation shall not be subject to the

conditions in 326 IAC 8-2-9.

Conclusion

The construction and operation of new facilities at Talbert Manufacturing Inc. plant in Francesville, Indiana shall be subject to the conditions of the attached proposed Source Specific Operating Agreements and Exemption S 131-14660-00019.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

0.3 < MM BTU/HR <10

Space Heater

Company Name: Talbert Manufacturing Inc.

Address City IN Zip: 300 South 1450 West, Francesville, IN 47946

CP: 131-14660

Pit ID: 131-00019

Reviewer: Madhurima D. Moulik

Date: July 30 2001

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

3.9

34.3

Pollutant

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	12.0	12.0	0.6	100.0 **see below	5.3	21.0
Potential Emission in tons/yr	0.2	0.2	0.0	1.7	0.1	0.4

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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)

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

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations

Natural Gas Combustion Only

0.3 < MM BTU/HR < 10

Space Heater

HAPs Emissions

Company Name: Talbert Manufacturing Inc.

Address City IN Zip: 300 South 1450 West, Francesville, IN 47946

CP: 131-14660

Plt ID: 131-00019

Reviewer: Madhurima D. Moulik

Date: July 30 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.606E-05	2.060E-05	1.288E-03	3.091E-02	5.838E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	8.585E-06	1.889E-05	2.404E-05	6.524E-06	3.606E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Abrasive Blasting - Confined

Company Name: Talbert Manufacturing Inc.

Address City IN Zip: 300 South 1450 West, Francesville, IN 47946

CP: 131-14660

Plt ID: 131-00019

Reviewer: Madhurima D. Moulik

Date: July 30, 2001

Table 1 - Emission Factors for Abrasives

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

Table 2 - Density of Abrasives (lb/ft3)

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

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

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

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

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)

FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =

940

D = Density of abrasive (lb/ft3) From Table 2 =

487

D1 = Density of sand (lb/ft3) =

99

ID = Actual nozzle internal diameter (in) =

07/16

ID1 = Nozzle internal diameter (in) from Table 3 =

07/16

Flow Rate (FR) (lb/hr) = 4624.04 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

0.004

FR = Flow Rate (lb/hr) =

4624.040

w = fraction of time of wet blasting =

0%

N = number of nozzles =

1

Uncontrolled Emissions	18.50 lb/hr
PM =	81.01 ton/yr
PM-10 =	81.01x0.86
PM-10 =	69.76 ton/yr

METHODOLOGY

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

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

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

**Company Name: Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Pit ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: July 30, 2001**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/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 (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Primer	11.4	28.0%	0.0%	28.0%	0.0%	55.3%	6.8	0.5	3.2	3.2	10.8	258.6	47.2	24.3	5.8	80%
Red Paint	9.9	34.2%	0.0%	34.2%	0.0%	51.5%	6.9	0.5	3.4	3.4	11.6	278.7	50.9	19.6	6.6	80%
Black Paint	10.1	34.6%	0.0%	34.6%	0.0%	50.8%	6.9	0.5	3.5	3.5	12.0	288.2	52.6	19.9	6.9	80%
Thinner	6.7	50.0%	0.0%	50.0%	0.0%	0.0%	1.0	0.5	3.4	3.4	1.7	41.0	7.5	1.5	-	80%

Total Emissions (tpy) = 24.09 578.28 105.54 45.34

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (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

Company Name: Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Pit ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: August 1, 2001

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Metal Inert Gas (MIG)(carbon steel)	12	25		0.0055	0.0005			1.650	0.150	0.000	0	0.150
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	1	1	7	0.1622	0.0005	0.0001	0.0003	0.068	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								1.72				0.15
Potential Emissions lbs/day								41.23				3.60
Potential Emissions tons/year								7.53				0.66

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick
 Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)
 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)
 Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
 Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
 Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.
 Welding and other flame cutting emission factors are from an internal training session document.
 Refer to AP-42, Chapter 12.19 for additional emission factors for welding.

Appendix A: Emissions Calculations
Log Sawing: Radial Arm Saw
Company Name: Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Plt ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: August 1, 2001

Raw Material (max)= 400 lb/hr

Emissions Factors from FIRE (SCC 3-07-008-02: Log Sawing):

PM= 0.35 lb/ton log sawed

PM10= 0.2 lbs/ton log sawed

Potential To Emit = Emission factor (lb/ton) x Raw Material (max) lb/hr x (1ton/2000 lb) x (1 ton/2000 lb) x 8760 hr/yr

PTE for PM = 0.31 tpy

PTE for PM10= 0.18 tpy

Appendix A: Emissions Calculations
Vehicular Traffic
Company Name: Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Plt ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: August 3, 2001

The following calculations determine the amount of emissions created by vehicular traffic on unpaved road for 8760 hours of use and USEPA's AP-42, 5th Edition, Section 13.2.2.2.

Distance traveled: 1.25 trips/hr x 0.06 miles/trip x 2 (round trip) x 8760 hr/yr
= 1314 miles per year

Fugitive Emissions $E_f = k * [(s/12)^{0.8} * [(W/3)^b] / [(M/0.2)^c] * [(365-p)/365] * (S/15)$

Where,

k= 2.6 (particle size multiplier for PM-10)(k=10 for TSP)
s= 9.0% (mean % silt content of unpaved roads)
b= 0.4 (constant for PM-10, 0.5 for TSP)
c= 0.3 (constant for PM-10, 0.4 for TSP)
W= 30 (tons average vehicle weight)
M= 0.2 (surface material moisture content,% (default is 0.2 for dry conditions))
S= 10 mph speed limit
p= 125.0 (number of days with at least 0.01 in of precipitation per year)

For PM-10, $E_f = 2.6 * (0.79)^{0.8} * 2.51 / 1.0 * 0.66 * 0.67 = 2.38$ lb/mile
PM-10 = 1.6 tpy

For PM, $E_f = 10 * (0.79)^{0.8} * 3.16 / 1.0 * 0.66 * 0.67 = 11.57$ lb/mile
PM = 7.6 tpy

**Appendix A: Emissions Calculations
HAPS Emissions From
From Surface Coating Operations**

**Company Name: Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Plt ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: August 3, 2001**

Material	Density (lb/gal)	Gal of Material (gal/unit)	Max units/hr	(Weight %)					Max Emissions (lb/hr)				
				Xylene	Ethylbenene	Toluene	Glycol Ether	MEK	Xylene	Ethylbenzene	Toluene	Glycol Ether	MEK
Primer	11.4	6.8	0.5	-	-	-	-	-	-	-	-	-	-
Red Paint	9.9	6.9	0.5	10.7	2.2	1.9	3	-	3.7	0.8	0.6	1.0	0.0
Black Paint	10.1	6.9	0.5	16.5	3.3	3	2.9	-	5.7	1.1	1.0	1.0	0.0
Thinner	6.7	1	0.5	-	-	-	-	50	0	0.0	0.0	0.0	1.7

Maximum Emissions (lb/hr)

	5.7	1.1	1.0	1.0	1.7
Single HAP					
PTE (tpy)	25.2	5.0	4.6	4.5	7.3

Combination HAPs:

PTE (tpy)	46.6
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Methodology:

Max Emissions (lb/hr) = Density (lb/gal) x Gal Material (gal/unit) x Max units/hr x Weight %/100

Potential To Emit (PTE) for Single HAP in tons per year (tpy) = Max Emissions (lb/hr) x 8760 hr/yr /2000 lb/t

Potential To Emit for Combination HAPS = Sum of PTE for Single HAPS

Appendix A: Emission Calculations
Total Emissions
Talbert Manufacturing Inc.
Address City IN Zip: 300 South 1450 West, Francesville, IN 47946
CP: 131-14660
Plt ID: 131-00019
Reviewer: Madhurima D. Moulik
Date: August 3, 2001

Total Potential Emissions in Tons Per Year

	PM	PM-10	SO2	NOx	VOC	CO	HAPs					Combination HAP
							Xylene	Ethylene	Toluene	Glycol Ether	MEK	
Space Heater	0.20	0.20	0.00	1.70	0.10	0.40	0.00	0.00	0.00	0.00	0.00	0.00
Abrasive Blasting	81.01	69.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Surface Coating	45.34	45.34	0.00	0.00	105.54	0.00	25.20	5.00	4.60	4.50	7.30	46.60
Welder and Oxyacetylene Cutter ¹	7.53	7.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Radial Saw	0.31	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vehicular Traffic	7.60	1.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Potential Emissions (tpy)	141.99	124.61	0.00	1.70	105.64	0.40	25.20	5.00	4.60	4.50	7.30	47.26

¹ Combination HAPs for Welding and Oxyacetylene Cutting operations include Mn, Ni, and Cr.