

Terri Evans  
Manchester Tank and Equipment Company  
P. O. Box 1367  
Bedford, IN 47421

Re: 093-14654-00010  
Minor Source Modification to:  
Part 70 permit No.: T093-7549-00010

Dear Ms. Evans:

Manchester Tank and Equipment Company (formerly Brunner Engineering & Manufacturing) was issued Part 70 operating permit T093-7549-00010 on November 2, 2000 for operation of a stationary metal pressure vessels manufacturing plant. An application to modify the source was received on July 17, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (a) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and
- (b) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions  
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call Nishat Hydari at (973) 575-2555, ext. 3216, or call (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments  
NH/EVP

cc: File - Lawrence County  
Lawrence County Health Department  
Air Compliance Section Inspector - Vaughn Ison  
Compliance Data Section - Karen Nowak  
Administrative and Development - Cynthia Bymaster  
Technical Support and Modeling - Michele Boner

# PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

**Manchester Tank and Equipment Company  
800-900 X Street  
Bedford, Indiana 47421**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T093-7549-00010	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: November 2, 2000  Expiration Date: November 2, 2005

First Minor Source Modification No.: 093-14347-00010, issued on June 12, 2001

First Minor Permit Modification No.: 093-14395-00010, issued on July 24, 2001

Second Minor Source Modification No.: 093-14654-00010	Pages Affected: 4, 5, 5a, 27, 28, 29
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: August 22, 2001

## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

### A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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The Permittee owns and operates a stationary metal pressure vessels manufacturing plant.

Responsible Official:	Darryl Zupancic
Source Address:	800-900 X Street, Bedford, IN 47421
Mailing Address:	800-900 X Street, Bedford, IN 47421
Phone Number:	(812) 275-5931
SIC Code:	3443
County Location:	Lawrence
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD or Emission Offset Rules; Major Source, Section 112 of the Clean Air Act

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

- (a) One (1) paint spray booth, identified as #7, utilizing an air atomization system, coating a maximum of 911 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as C4;
- (b) One (1) paint spray booth, identified as PP1, utilizing an airless and air-assisted airless system, coating a maximum of 1180 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one stack, identified as PP-01;
- (c) One (1) natural gas fired bake oven, identified as BkO1, with a maximum heat input capacity of 1.65 million British thermal units per hour (MMBtu/hr), for drying the coated tanks from spray booth PP1, with emissions exhausting to stacks BkO-01 and BkO-02;
- (d) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and
- (e) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
  - (1) one (1) furnace at 660 thousand Btu per hour,
  - (2) one (1) furnace at 6.6 million Btu per hour,
  - (3) one (1) furnace at 80 thousand Btu per hour ,
  - (4) one (1) furnace at 65 thousand Btu per hour,
  - (5) one (1) furnace at 85 thousand Btu per hour,
  - (6) one (1) furnace at 120 thousand Btu per hour;
  - (7) one (1) furnace at 120 thousand Btu per hour,
  - (8) one (1) furnace at 120 thousand Btu per hour;
  - (9) one (1) water heater at 40 thousand Btu per hour,
  - (10) One (1) dry-off oven, identified as NDO1, rated at 0.5 MMBtu/hr and exhausting to one (1) stack, identified as NDO-01; and
  - (11) Two (2) water heaters, each rated at 1.5 MMBtu/hr.
- (b) Combustion source flame safety purging on startup;
- (c) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;
- (d) Machining where an aqueous cutting coolant continuously floods the machining interface;
- (e) Degreasing operations performed with an aqueous-based phosphate cleaner (consists of an aqueous parts washer, identified as NW1 and exhausting to four (4) stacks, NW-01 to NW-04);
- (f) The following equipment related to manufacturing activities resulting in the emission of HAPs below insignificant emission levels: brazing equipment, cutting torches, soldering equipment, welding equipment;
- (g) Process vessel degassing and cleaning to prepare internal repairs;
- (h) Paved and unpaved roads and parking lots with public access;
- (i) Blowdown for any of the following: sight glass, boiler, compressors, pumps, and cooling tower;
- (j) Other categories with emissions below insignificant thresholds:
  - (1) welding operations with PM-10 emission less than twenty-five (25) pounds per day,
  - (2) one (1) plate burner with PM-10 emissions less than twenty-five (25) pounds per day,
  - (3) one (1) hole burner with PM-10 emissions less than twenty-five (25) pounds per day,
  - (4) one (1) fork lift operation utilizing multiple forklifts with PM-10 emissions less than twenty-five (25) pounds per day, and
  - (5) aerosol spray paint cans with VOC emissions less than fifteen (15) pounds per day.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

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This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION D.1 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) paint spray booth, identified as #7, utilizing an air atomization system, coating a maximum of 911 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as C4;
- (b) One (1) paint spray booth, identified as PP1, utilizing an airless and air-assisted airless system, coating a maximum of 1180 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one stack, identified as PP-01;
- (c) One (1) natural gas fired bake oven, identified as BkO1, with a maximum heat input capacity of 1.65 million British thermal units per hour (MMBtu/hr), for drying the coated tanks from spray booth PP1, with emissions exhausting to stacks BkO-01 and BkO-02;
- (d) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and
- (e) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal parts or products in each of the two (2) paint spray booths (identified as #7 and PP1) shall be limited to 3.5 pounds of VOC per gallon of coating less water delivered to the applicator, for air dried, forced warm air dried, or extreme performance coatings.
- (b) Solvent sprayed from the application equipment during clean up 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.

#### D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) The PM from the two (2) paint booths (#7 and PP1) and the one (1) metalizing process (MP1) shall not exceed the pound per hour emission rate established as E in the following formula:

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:

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

- (b) Pursuant to 326 IAC 6-3-2, the PM from the pneumatic blasting operation (SB1) shall not exceed the pound per hour emission rate established as E in the following formula:

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:

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

$$E = 4.10 (0.5)^{0.67} = 2.58 \text{ lbs PM/hour}$$

#### D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

### Compliance Determination Requirements

#### D.1.4 Volatile Organic Compounds (VOC)

Compliance with the VOC content contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.1.5 Particulate Matter (PM)

The dry filters for PM control shall be in operation at all times when the two (2) paint booths (#7 and PP1), the one (1) metalizing process (MP1) and the one (1) pneumatic blasting operation (SB1) are in operation.

#### D.1.6 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, the Permittee shall monitor the pressure drop across the dry filters twice per day when one or more of the paint booths and the one (1) metalizing process are in operation. The pressure drop shall remain within the range established by the manufacturer's specifications.
- (b) The Permittee shall, on a weekly basis, monitor surface coating booth stacks C4 and PP-01 and metalizing process stack MP-01 for evidence of visible emissions while one or more of the booths and the metalizing process are in operation. During this inspection, the Permittee shall also inspect the nearby ground for the presence of overspray.
- (c) The Permittee, shall, on a semiannual basis, monitor for the presence of overspray on the rooftops.
- (d) The Compliance Response Plan shall be followed whenever a condition exists that should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (e) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (f) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the one (1) pneumatic blasting operation.



## **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

### **D.1.7 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) below. Records maintained for (1) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.
  - (1) 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) To document compliance with Conditions D.1.5 and D.1.6, the Permittee shall maintain a log of daily, weekly, and semiannual inspections. The Permittee shall maintain a log of pressure drop readings, and record the dates that dry filters are replaced. The pressure drop log shall indicate the base measurement for establishing the pressure drop range.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Minor Source Modification to a Part 70 Operating Permit

#### Source Background and Description

<b>Source Name:</b>	Brunner Engineering & Manufacturing
<b>Source Location:</b>	800-900 X Street, Bedford, IN 47421
<b>County:</b>	Lawrence
<b>SIC Code:</b>	3443
<b>Operation Permit No.:</b>	T093-7549-00010
<b>Operation Permit Issuance Date:</b>	November 2, 2000
<b>Minor Source Modification No.:</b>	093-14654-00010
<b>Permit Reviewer:</b>	NH/EVP

The Office of Air Quality (OAQ) has reviewed a modification application from Brunner Engineering & Manufacturing relating to the operation of a stationary metal pressure vessels manufacturing plant.

#### History

On July 17, 2001, Brunner Engineering & Manufacturing submitted an application to the OAQ requesting to add two (2) additional processes to their existing plant. Brunner Engineering & Manufacturing was issued a Part 70 permit on November 2, 2000. The company has also requested a name change from Brunner Engineering & Manufacturing to Manchester Tank and Equipment Company.

#### New Emission Units and Pollution Control Equipment Receiving Prior Approval

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-7-5(16):

- (a) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and
- (b) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.

#### Existing Approvals

The source was issued a Part 70 Operating Permit (T093-7549-00010) on November 2, 2000. The source has since received the following:

- (a) First Minor Source Modification No.: 093-14347-00010, issued on June 12, 2001; and

(b) First Minor Permit Modification No.: 093-14395-00010, issued on July 24, 2001.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
MP-01	Metalizing process	14	24 inches	7,800	Ambient room
SB-01	Pneumatic Blasting	10	18 inches	12,000	Ambient room

### Recommendation

The staff recommends to the Commissioner that the Minor Source Modification 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 July 17, 2001.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 2).

### Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source 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.”

Pollutant	Potential To Emit (tons/year)
PM	111.61
PM-10	96.35
SO <sub>2</sub>	0.00
VOC	0.00
CO	0.00
NO <sub>x</sub>	0.00

### Justification for Modification

The Title V permit is being modified through a Minor Source Modification. This modification is being performed pursuant to the following:

Pursuant to 326 IAC 2-7-10.5(d)(5)(C), the source is “Using a particulate air pollution control device as follows:

- (i) Achieving and maintaining ninety-nine percent (99%) efficiency.
- (ii) Complying with a no visible emission standard.

- (iii) The potential to emit before controls does not exceed major source thresholds for federal permitting programs.
- (iv) Certifying to the commissioner that the control device supplier guarantees that a specific outlet concentration, in conjunction with design air flow, will result in actual emissions less than twenty-five (25) tons of particulate matter (PM) or fifteen (15) tons per year of particulate matter with an aerodynamic diameter less than or equal to ten (10) micrometers (PM10).”

The source will use dry filters on its pneumatic blasting operation (identified as SB1) to control PM/PM10 emissions and will comply with all the above mentioned rules.

### County Attainment Status

The source is located in Lawrence County.

Pollutant	Status
PM-10	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Lawrence County has been designated as attainment or unclassifiable for ozone.

### Source Status

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

Pollutant	Emissions (tons/year)
PM	85.96
PM-10	86.23
SO <sub>2</sub>	0.02
VOC	53.14
CO	3.88
NO <sub>x</sub>	4.25
Total HAPs	44.12

- (a) This existing source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the Title V (T093-7549-00010) issued to the source on November 2, 2000.

**Potential to Emit After Controls for the Modification**

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

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Metalizing Process (MP1)	0.01	0.01	--	--	--	--	--
Pneumatic Blasting (SB1)	0.11	0.09	--	--	--	--	--
<b>Total Emissions</b>	<b>0.12</b>	<b>0.10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>PSD Threshold Level</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>250</b>	<b>N/A</b>

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2 and 40 CFR 52.21, the PSD requirements do not apply.

**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 is located in Lawrence County, which is not one of the listed counties for this rule. Additionally, the source does not have the potential to emit CO, VOC, NO<sub>x</sub>, PM-10, or SO<sub>2</sub> at greater than a 100 ton per year rate. Therefore, 326 IAC 2-6 does not apply.

**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.

### State Rule Applicability - Individual Facilities

#### 326 IAC 6-3-2 (Process Operations)

- (a) The particulate matter (PM) from the metalizing process (identified as MP1) 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:

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

The dry filters shall be in operation at all times the metalizing process (identified as MP1) is in operation, in order to comply with this limit.

- (b) The particulate matter (PM) from the pneumatic blasting operation (identified as SB1) 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:

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

$$E = 4.10 (0.5)^{0.67} = 2.58 \text{ lbs PM/hr}$$

Based on the above equation, particulate matter emissions from the pneumatic blasting operation, identified as SB1 shall be limited to 2.58 pounds per hour for a maximum process rate of 1000 pounds per hour.

Compliance calculation:

$$(109.02 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 24.89 \text{ lbs PM/hr}$$

Controlled Compliance calculation:

$$(0.11 \text{ tons PM/yr}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 0.03 \text{ lbs PM/hr}$$

The dry filters shall be in operation at all times the pneumatic blasting operation, identified as SB1 is in operation, in order to comply with this limit.

### Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

Note: Brunner had previously objected to these same compliance monitoring conditions in an administrative appeal of a Source Modification issued to Brunner on or about November 22, 1999. Those objections were incorporated into the Part 70 permit (T093-7549-00010) and thus are being included in this Minor Source Modification.

1. The metalizing process has applicable compliance monitoring conditions as specified below:
  - (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, the Permittee shall monitor the pressure drop across the dry filters twice per day when the one (1) metalizing process is in operation. The pressure drop shall remain within the range established by the manufacturer's specifications.
  - (b) The Permittee shall, on a weekly basis, monitor metalizing process stack MP-01 for evidence of visible emissions while the one (1) metalizing process is in operation. During this inspection, the Permittee shall also inspect the nearby ground for the presence of overspray.
  - (c) The Permittee, shall, on a semiannual basis, monitor for the presence of overspray on the rooftops.
  - (d) The Compliance Response Plan shall be followed whenever a condition exists that should result in a response step.

These monitoring conditions are necessary because the dry filters for the metalizing process (identified as MP1) must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-7 (Part 70).

2. The pneumatic blasting operation, identified as SB1 has applicable compliance monitoring conditions as specified below:
  - (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters.

### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Quality (OAQ) Part 70 Application Form GSD-08.

None of the listed air toxics will be emitted from this source.

### **Changes Proposed**

- 1) The following changes have been made to Section A.2 to include the new emission units.

#### **A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]**

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

- (a) One (1) paint spray booth, identified as #7, utilizing an air atomization system, coating a maximum of 911 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as C4;

- (b) One (1) paint spray booth, identified as PP1, utilizing an airless and air-assisted airless system, coating a maximum of 1180 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one stack, identified as PP-01; ~~and~~
  - (c) One (1) natural gas fired bake oven, identified as BkO1, with a maximum heat input capacity of 1.65 million British thermal units per hour (MMBtu/hr), for drying the coated tanks from spray booth PP1, with emissions exhausting to stacks BkO-01 and BkO-02-;
  - (d) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and**
  - (e) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.**
- 2) The following changes have been made to the facility description box in Section D.1 to include the new emission units.

**Facility Description [326 IAC 2-7-5(15)]:**

- (a) One (1) paint spray booth, identified as #7, utilizing an air atomization system, coating a maximum of 911 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as C4;
  - (b) One (1) paint spray booth, identified as PP1, utilizing an airless and air-assisted airless system, coating a maximum of 1180 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one stack, identified as PP-01; ~~and~~
  - (c) One (1) natural gas fired bake oven, identified as BkO1, with a maximum heat input capacity of 1.65 million British thermal units per hour (MMBtu/hr), for drying the coated tanks from spray booth PP1, with emissions exhausting to stacks BkO-01 and BkO-02-;
  - (d) One (1) metalizing process, identified as MP1, coating a maximum of 42 square feet of steel tanks per hour, using dry filters for particulate matter overspray control, and exhausting to one (1) stack, identified as MP-01; and**
  - (e) One (1) pneumatic blasting operation, identified as SB1, utilizing dry filters for particulate matter control, exhausting to one (1) stack, identified as SB-01.**
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

- 3) Condition D.1.2 has been revised to include the metalizing process and the pneumatic blasting operation.

**D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]**

- (a) The PM from the two (2) paint booths (#7 and PP1) and the one (1) metalizing process (MP1) shall not exceed the pound per hour emission rate established as E in the following formula:**

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:

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

- (b) Pursuant to 326 IAC 6-3-2, the PM from the pneumatic blasting operation (SB1) shall not exceed the pound per hour emission rate established as E in the following formula:**

**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:**



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

$$E = 4.10 (0.5)^{0.67} = 2.58 \text{ lbs PM/hour}$$

- 4) Condition D.1.5 has been revised to include the new units.

**D.1.5 Particulate Matter (PM)**

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The dry filters for PM control shall be in operation at all times when the two (2) paint booths (#7 and PP1), **the one (1) metalizing process (MP1) and the one (1) pneumatic blasting operation (SB1)** are in operation.

- 5) Condition D.1.6 has been revised to update the stacks for the one (1) metalizing process.

**D.1.6 Monitoring**

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- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, the Permittee shall monitor the pressure drop across the dry filters twice per day when one or more of the paint booths **and the one (1) metalizing process** are in operation. The pressure drop shall remain within the range established by the manufacturer's specifications.
- (b) The Permittee shall, on a weekly basis, monitor surface coating booth stacks C4 and PP-01 **and metalizing process stack MP-01** for evidence of visible emissions while one or more of the booths **and the metalizing process** are in operation. During this inspection, the Permittee shall also inspect the nearby ground for the presence of overspray.
- (c) The Permittee, shall, on a semiannual basis, monitor for the presence of overspray on the rooftops.
- (d) The Compliance Response Plan shall be followed whenever a condition exists that should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (e) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.
- (f) **Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the one (1) pneumatic blasting operation.**

**Conclusion**

The construction of this modification shall be subject to the conditions of the attached proposed **Minor Source Modification No. 093-14654-00010.**

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

**Company Name:** Manchester Tank and Equipment Company  
**Address City IN Zip:** 800-900 X Street, Bedford, IN 47421  
**Title V Minor Source Modification:** 093-14654  
**Plt ID:** 093-00010  
**Reviewer:** NH/EVP

Material	Process	Density (Lb/ft)	Volume % Non-Volatiles (solids)	Foot of Mat. (ft of wire/unit)	Maximum (unit/hour)	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Metco SF Aluminum Wire	MP1	0.1875	100.00%	0.75000	42.000	2.59	ERR	90%

**State Potential Emissions**

**2.59**

<b>Controlled Potential Emissions</b>		
	Control Efficiency % PM	Controlled PM tons per Year
<b>Total Controlled Potential Emissions:</b>	99.80%	<b>0.01</b>

**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

**Appendix A: Emission Calculations  
Abrasive Blasting - Confined**

**Company Name:** Manchester Tank and Equipment Company  
**Address City IN Zip:** 800-900 X Street, Bedford, IN 47421  
**Title V Minor Source Modification:** 093-14654  
**Pit ID:** 093-00010  
**Reviewer:** NH/EVP

**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 =  
 D = Density of abrasive (lb/ft3) From Table 2 =  
 D1 = Density of sand (lb/ft3) =  
 ID = Actual nozzle internal diameter (in) =  
 ID1 = Nozzle internal diameter (in) from Table 3 =

1265
487
99
0.5
0.5

**Flow Rate (FR) (lb/hr) = 6222.778 per nozzle**

**Uncontrolled Emissions (E, lb/hr)**

EF = emission factor (lb PM/ lb abrasive) From Table 1 =  
 FR = Flow Rate (lb/hr) =  
 w = fraction of time of wet blasting =  
 N = number of nozzles =

0.004
6222.778
0%
1

<b>Uncontrolled PM Emissions =</b>	<b>24.89 lb/hr</b>
	<b>109.02 ton/yr</b>
<b>Uncontrolled PM10 Emissions =</b>	<b>21.41 lb/hr</b>
	<b>93.76 ton/yr</b>
<b>Controlled PM Emissions =</b>	<b>0.11 ton/yr</b>
<b>Controlled PM10 Emissions =</b>	<b>0.09 ton/yr</b>

**Note: PM/PM10 emissions are controlled by dry filters with a removal efficiency of 99.9%**

**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)