



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: January 27, 2009

RE: Bull Moose Tube Co, Inc. / 039-27162-00251

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot12/3/07



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Mr. Trent Wagner
Bull Moose Tube Company
P.O. Box 1037
Elkhart, Indiana 46515

January 27, 2009

Re: Exempt Operation Status,
039-27162-00251

Dear Mr. Wagner:

The application from Bull Moose Tube Company, received on November 19, 2008, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following stationary metal tube forming and welding operation, located at 29581 County Road 20 West, Elkhart, Indiana 46517 is classified as exempt from air pollution permit requirements:

- (a) One (1) tube forming operation using a high frequency thermatool welder, with mill coolant, identified as Mill #9, with throughput of 21.5 tons of steel tubes per hour.
- (b) One (1) tube forming operation using a high frequency thermatool welder, with mill coolant, identified as Mill #4, with throughput of 12.86 tons of steel tubes per hour.
- (c) Eleven (11) natural gas fired heaters rated at 0.1 MMBtu/hr each.
- (d) Three (3) natural gas fired heaters rated at 0.15 MMBtu/hr each.
- (d) Four (4) band saws, using wet cutting methods, using no controls.
- (e) Surface coating process for applying rust preventative to steel tubes from Mill #4, and for applying inks to steel tubes from Mills #4 and #9, with a maximum throughput of 13.6 tons of steel per hour and less than 5 gallons of coating per day, consisting of airless spray and air atomization spray using no controls and exhausting inside the building.
- (f) Four (4) natural gas fired heaters exhausting inside the building rated at 2.2 MMBtu/hr each, and two (2) natural gas fired heaters exhausting inside the building rated at 1.2 MMBtu/hr each.

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 (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.

- (2) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes):
- (a) The particulate from the tube forming operation identified as Mill#9 shall be limited to 32.0 pounds per hour based on a process weight rate of 21.5 tons of steel tubes per hour.
 - (b) The particulate from the tube forming operation identified as Mill#4 shall be limited to 22.7 pounds per hour based on a process weight rate of 12.86 tons of steel tubes per hour.

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:

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

This Exemption No. 039-27162-00251 supersedes the Exemption No. 039-22650-00251, issued on April 26, 2006.

A copy of the Exemption is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Renee Traivaranon, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-5615 or at 1-800-451-6027 (ext 4-5615).

Sincerely,



Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/rt

Attachments

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance Section
IDEM Northern Regional Office
Compliance Data Section
Permits Administrative and Development
Billing, Licensing and Training Section

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name: Bull Moose Tube Company
Source Location: 29851 County Road 20 West, Elkhart, Indiana 46517
County: Elkhart
SIC Code: 3317
Exemption No.: 039-27162-00251
Permit Reviewer: Renee Traivaranon

On November 19, 2008, the Office of Air Quality (OAQ) has received an application from Bull Moose Tube Company related to the operation changes at the existing stationary metal tube forming and welding operation plant.

Existing Approvals

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

- (a) Exemption No. 039-22650-00251, issued on April 26, 2006.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard.
PM ₁₀	Unclassifiable effective November 15, 1990 ¹ .
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 Elkhart County has been classified as attainment or unclassifiable for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.

- (c) Other Criteria Pollutants
Elkhart County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Bull Moose Tube Company relating to the change of VOC content in the TSO Black Ink and Renoform SYN 935. The VOC content of the TSO is 91.3% rather than 90% and the VOC content of the Renoform SYN 935 is 15% rather than 11.7%. The application also requested to update the heaters to 20 units.

The source consists of the following existing emission units:

- (a) One (1) tube forming operation using a high frequency thermatool welder, with mill coolant, identified as Mill #9, with throughput of 21.5 tons of steel tubes per hour.
- (b) One (1) tube forming operation using a high frequency thermatool welder, with mill coolant, identified as Mill #4, with throughput of 12.86 tons of steel tubes per hour.
- (c) Eleven (11) natural gas fired heaters rated at 0.1 MMBtu/hr each.
- (d) Three (3) natural gas fired heaters rated at 0.15 MMBtu/hr each.
- (d) Four (4) band saws, using wet cutting methods, using no controls.
- (e) Surface coating process for applying rust preventative to steel tubes from Mill #4, and for applying inks to steel tubes from Mills #4 and #9, with a maximum throughput of 13.6 tons of steel per hour and less than 5 gallons of coating per day, consisting of airless spray and air atomization spray using no controls and exhausting inside the building.
- (f) Four (4) natural gas fired heaters exhausting inside the building rated at 2.2 MMBtu/hr each, and two (2) natural gas fired heaters exhausting inside the building rated at 1.2 MMBtu/hr each.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations (See App A Page 1 through 5 of TSD.)

Permit Level Determination – Exemption

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Emission Units/ Process	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NOx	VOC	CO	Total HAPs	Worst Single HAP
Mill#4 (Tube Forming & Surface Coating)	0.1	0.1	0.1	--	--	--	--	0.2	0.1 (Xylene or Toluene)
Mill#9 (Tube Forming & Surface Coating)	0.1	0.1	0.1	--	--	--	--	0.8	0.3 (Xylene or Toluene)
20 Heaters	0.1	0.4	0.4	--	5.5	0.3	4.6	0.1	--
Fugitive Emissions	--	--	--	--	--	--	--	--	--
Total PTE of Entire Source	0.3	0.6	0.6	<1	5.5	0.3	4.6	1.1	0.4 (Xylene or Toluene)
Exemptions Levels	5	5	5	10	10	5 or 10	25	25	10
-- = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".									

Criteria Pollutants

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

Hazardous Air Pollutants

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.
- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, the requirements of 326 IAC 6-5 do not apply.
- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

State Rule Applicability – Individual Facilities

- (a) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The surface coating operations (application of rust preventative on Mill #4, application of black ink, and spray paint on Mill #4 and Mill #9) apply less than five (5) gallons per day. Pursuant to 326 IAC 6-3-1(b)(15), the surface coating operations are not subject to the requirements of 326 IAC 6-3.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes):
- (1) The band saw cutting operations utilize wet cutting methods and do not result in the formation of airborne particulate matter. Therefore, the requirement of 326 IAC 6-3-2 do not apply.
 - (2) The particulate from the tube forming operation identified as Mill#9 shall be limited to 32.0 pounds per hour based on a process weight rate of 21.5 tons of steel tubes per hour.
 - (3) The particulate from the tube forming operation identified as Mill#4 shall be limited to 22.7 pounds per hour based on a process weight rate of 12.86 tons of steel tubes per hour.

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:

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

- (c) 326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)
Pursuant to 326 IAC 8-2-1, the provisions of 326 IAC 8-2-9 apply to miscellaneous metal coating operations constructed after July 1, 1990, located in any county, and which have actual emissions of greater than fifteen (15) pounds per day before add-on controls.

There are no VOC emissions from Mill#4 and Mill#9. Therefore, the requirements of 326 IAC 8-2-9 do not apply.

Conclusion and Recommendation

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 November 19, 2008.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. 039-27162-00251. The staff recommends to the Commissioner that this Exemption be approved.

This Exemption No. 039-27162-00251 will supersede the Exemption No. 039-22650-00251, issued on April 26, 2006.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Renee Traivaranon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5615 or toll free at 1-800-451-6027 extension 4-5615.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>

- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emission Calculations
VOC and PM/PM10 Emissions: Metal Tube Coating - Mill #4

Company Name: Bull Moose Tube Company, Inc.
Address: 29851 CR 20 West
Exemption: 039-27162-00251
Reviewer: Renee Traivaranon
Date: January 7, 2009

Material Name	Density (lbs/gal)	Weight % Total Volatiles	Weight % Organics (VOC)	Weight % Water	Weight % Solids	Flash Off %	Maximum Usage (gal/unit)	Maximum Throughput (units/hr)	Materials Usage (gals/day)
Rustilo 210	7.32	9.15%	9.15%	0.0%	97.5%	100%	2.55E-04	13.6	0.08
TSO-1 Black Ink	6.71	91.3%	91.3%	0.0%	7.0%	100%	1.69E-06	2059	0.08
TSO Ink Conditioner	6.55	100%	100%	0.0%	0.0%	100%	2.25E-06	2059	0.11
Spray Paints	7.51	89.2%	89.2%	0.0%	6.6%	100%	0.001	13.6	0.33
Mill Coolant	8.92	77.4%	15.0%	62.4%	41.7%	1.25%	0.067	13.6	NA

Material Name	Lbs VOC per Gal Coating	Potential to Emit VOC (lbs/hour)	Potential to Emit VOC (lbs/day)	Potential to Emit VOC (tons/yr) 8760 hrs/yr	Actual VOC Emissions (tons/yr) 2540 hrs/yr	Transfer Efficiency %	Potential to Emit PM/PM10 Before Controls (tons/yr)	Control Efficiency %	Potential to Emit PM/PM10 After Controls (tons/yr)
Rustilo 210	0.67	0.002	0.06	0.010	0.003	10.0%	0.098	90.0%	0.010
TSO-1 Black Ink	6.13	0.021	0.51	0.093	0.03	10.0%	0.006	90.0%	0.001
TSO Ink Conditioner	6.55	0.030	0.73	0.133	0.04	10.0%	0.000	90.0%	0.000
Spray Paints	6.70	0.091	2.19	0.400	0.12	10.0%	0.027	90.0%	0.003
Mill Coolant	1.34	0.015	0.37	0.067	0.02	100%	0.000	90.0%	0.000
Total		0.161	3.86	0.704	0.20		0.131		0.013

One unit of throughput for the Rustilo 210, Spray Paints, and Mill Coolant is equivalent to one ton of steel tubes. One unit of throughput for the TSO Black Ink and Ink Conditioner is equivalent to one lineal foot of steel.

The flash off percentage of 1.25% for the mill coolant is based on records of replacement coolant added to the coolant storage tank to replace coolant that evaporates during the tube cooling process.

Methodology

Potential to Emit of VOC (tons/yr) = Density (lbs/gal) x Weight % VOC x Flash Off % x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs

Potential to Emit of PM/PM10 Before Controls (tons/yr) = Density (lbs/gal) x Weight % Solids x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs x (1-Transfer Efficiency %)

Potential to Emit of PM/PM10 After Controls (tons/yr) = PTE PM/PM10 Before Controls (tons/yr) x (1- Control Efficiency %)

Appendix A: Emission Calculations
HAP Calculations for Mill #4

Company Name: Bull Moose Tube Company, Inc.
 Address: 29851 CR 20 West
 Exemption: 039-27162-00251
 Reviewer: Renee Traivaranon
 Date: January 7, 2009

HAP: Xylene CAS# 1330-20-7				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
Rustilo 210		0	0	0
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	15.0%	0.015	0.067	0.020
Mill Coolant		0	0	0
Total		0.015	0.067	0.020

HAP: Ethylbenzene CAS# 100-41-4				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
Rustilo 210		0	0	0
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	5.0%	0.005	0.022	0.007
Mill Coolant		0	0	0
Total		0.005	0.022	0.007

HAP: Toluene CAS# 108-88-3				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
Rustilo 210		0	0	0
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	15.0%	0.015	0.067	0.020
Mill Coolant		0	0	0
Total		0.015	0.067	0.020

HAP: Methyl Alcohol CAS# 7-56-1				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
Rustilo 210		0	0	0
TSO-1 Black Ink	20.0%	0.005	0.020	0.006
TSO Ink Conditioner		0	0	0
Spray Paints		0	0	0
Mill Coolant		0	0	0
Total		0.005	0.020	0.006

Total HAP Potential to Emit (tons/yr)	0.18
Actual HAP Emissions (tons/yr)	0.05

Methodology

PTE of HAPs (tons/yr) = Density (lbs/gal) x Weight % HAP x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs

Appendix A: Emission Calculations
VOC and PM/PM10 Emissions: Metal Tube Coating Mill #9

Company Name: Bull Moose Tube Company, Inc.
Address: 29851 CR 20 West
Exemption: 039-27162-00251
Reviewer: Renee Traivaranon
Date: January 7, 2009

Material Name	Density (lbs/gal)	Weight % Total Volatiles	Weight % Organics (VOC)	Weight % Water	Weight % Solids	Flash Off %	Maximum Usage (gal/unit)	Maximum Throughput (units/hr)	Materials Usage (gals/day)
TSO-1 Black Ink	6.71	91.3%	91.3%	0.0%	7.0%	100%	2.50E-04	16	0.10
TSO Ink Conditioner	6.55	100%	100%	0.0%	0.0%	100%	6.00E-05	16	0.02
Spray Paints	7.51	89.2%	89.2%	0.0%	6.6%	100%	4.00E-03	16	1.54
Mill Coolant WY3085B	8.92	74.02%	15.00%	62.36%	41.72%	1.25%	2.42E-01	16	NA

Material Name	Lbs VOC per Gal Coating	Potential to Emit VOC (lbs/hour)	Potential to Emit VOC (lbs/day)	Potential to Emit VOC (tons/yr) 8760 hrs/yr	Actual VOC Emissions (tons/yr) 2540 hrs/yr	Transfer Efficiency %	Potential to Emit PM/PM10 Before Controls (tons/yr)	Control Efficiency %	Potential to Emit PM/PM10 After Controls (tons/yr)
TSO-1 Black Ink	6.13	0.025	0.59	0.11	0.031	10.0%	0.01	90%	0.001
TSO Ink Conditioner	6.55	0.006	0.15	0.028	0.008	10.0%	0.00	90%	0.000
Spray Paints	6.70	0.429	10.3	1.88	0.544	10.0%	0.13	90%	0.013
Mill Coolant	1.34	0.065	1.55	0.28	0.082	100.0%	0.00	90%	0.000
Total		0.52	12.6	2.30	0.67		0.13		0.013

One unit is equivalent to one (1) ton of steel.

The flash off percentage of 1.25% for the mill coolant is based on records of replacement coolant added to the coolant storage tank to replace coolant that evaporates during the tube cooling process.

METHODOLOGY

Potential to Emit of VOC (tons/yr) = Density (lbs/gal) x Weight % VOC x Flash Off % x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs

Potential to Emit of PM/PM10 Before Controls (tons/yr) = Density (lbs/gal) x Weight % Solids x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs x (1-Transfer Efficiency %)

Potential to Emit of PM/PM10 After Controls (tons/yr) = PTE PM/PM10 Before Controls (tons/yr) x (1- Control Efficiency %)

Appendix A: Emission Calculations
HAP Calculations for Mill #9

Company Name: Bull Moose Tube Company, Inc.
 Address: 29851 CR 20 West
 Exemption: 039-27162-00251
 Reviewer: Renee Traivaranon
 Date: January 7, 2009

HAP: Xylene CAS# 1330-20-7				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	15.0%	0.07	0.32	0.09
Mill Coolant		0	0	0
Total		0.07	0.32	0.09

HAP: Ethylbenzene CAS# 100-41-4				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	5.0%	0.02	0.11	0.03
Mill Coolant		0	0	0
Total		0.02	0.11	0.03

HAP: Toluene CAS# 108-88-3				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
TSO-1 Black Ink		0	0	0
TSO Ink Conditioner		0	0	0
Spray Paints	15.0%	0.07	0.32	0.09
Mill Coolant		0	0	0
Total		0.07	0.32	0.09

HAP: Methyl Alcohol CAS# 7-56-1				
Material Name	Weight % HAP	Potential to Emit (lb/hr)	Potential to Emit (tons/yr) 8760 (hrs/yr)	Actual HAP Emissions (tons/yr) 2540 (hrs/yr)
TSO-1 Black Ink	20.0%	0.01	0.02	0.01
TSO Ink Conditioner		0	0	0
Spray Paints		0	0	0
Mill Coolant		0	0	0
Total		0.01	0.02	0.01

Total HAP Potential to Emit (tons/yr)	0.76
Actual HAP Emissions (tons/yr)	0.22

METHODOLOGY

PTE of HAPs (tons/yr) = Density (lbs/gal) x Weight % HAP x Maximum Usage (gals/unit) x Max. Throughput (units/hr) x 8760 (hrs/yr) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Combustion Emissions from the Natural Gas Heaters**

Company Name: Bull Moose Tube Company, Inc.
Address: 29851 CR 20 West
Exemption: 039-27162-00251
Reviewer: Renee Traivaranon
Date: January 7, 2009

Description
Heaters (20 units)

Total Heat Input Capacity (MMBtu/hour)
12.8

Total Max. Potential Throughput (MMCF/year)
110

Pollutant Emission Factors (lbs/MMCF)						
PM*	PM10*	SO ₂	NO _x **	CO	VOC	HAPs
1.9	7.6	0.6	100	84.0	5.5	1.89

Emission Unit ID	Potential To Emit (tons/year)						
	PM	PM10	SO ₂	NO _x	CO	VOC	HAPs
Heaters (20 units)	0.10	0.42	0.03	5.5	4.6	0.30	0.103

*PM emission factor is for filterable PM only. PM10 emission factor is for condensable and filterable PM and PM10 combined.

**Emission Factors for NO_x: Uncontrolled = 100 lbs/MMCF

Emission Factors from AP-42, Chapter 1.4 - Natural Gas Combustion, Tables 1.4-1, 1.4-2, 1.4-3 and 1.4-4. SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03. (AP-42 Supplement D 7/98)

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

1020 Btu per cubic foot of natural gas

Methodology

Max. Potential Throughput (MMCF/year) = Heat Input Capacity (MMBtu/hour) x 8,760 (hours/year) x 1 MMCF/1,000 MMBtu

Potential to Emit (tons/year) = Throughput (MMCF/year) x Emission Factor (lbs/MMCF) x 1ton/2000 lbs