INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: April 26, 2006

RE: Bull Moose Tube Co., Plant #9 / 039-22650-00251

FROM: Nisha Sizemore
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, Room 1049, 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.dot 03/23/06

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mr. Trent Wagner
Bull Moose Tube Company
P.O. Box 1037
Elkhart, Indiana 46516

April 26, 2006

Dear Mr. Wagner:

Re: Exempt Operation Status,
039-22650-00251

The application from Bull Moose Tube Company received on February 13, 2006, 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, to be 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) Thirteen (13) natural gas fired space heaters rated at 0.1 MMBtu/hr each.

(d) Four (4) 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, consisting of airless spray and air atomization spray using no controls and exhausting inside the building.

(f) Three (3) 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 an 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 an 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:

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

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.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Stephen Treimel, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7902 to speak directly to Mr. Treimel. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251 or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by
Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

ERG/ST

cc: File - Elkhart County
Elkhart County Health Department
Air Compliance – Paul Karkiewicz
Northern Regional Office
Permit Tracking
Compliance Data Section
Program Planning and Policy – Scott Delaney

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Bull Moose Tube Company
Source Location:	29851 County Road 20 West, Elkhart, Indiana 46517
County:	Elkhart
SIC Code:	3317
Registration No.:	039-11688-0025
Registration Issuance Date:	February 7, 2000
Exemption No.:	039-22650-00251
Permit Reviewer:	ERG/ST

The Office of Air Quality (OAQ) has reviewed an application from Bull Moose Tube Company relating to the construction and operation of a stationary metal tube forming and welding operation.

History and Background

Bull Moose Tube Company was issued Registration 039-11688-00251 on February 7, 2000. On February 13, 2006, the source submitted an application for an Exemption with supporting documentation. The source has permanently removed equipment for applying rust preventative to the steel tubes manufactured in Mill #9, changed the formulation for the rust preventative applied in Mill #4, and has removed 24 space heaters. The source-wide potential to emit is now less than the levels requiring a Registration.

Permitted Emission Units and Pollution Control Equipment

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

(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) Thirteen (13) natural gas fired space heaters rated at 0.1 MMBtu/hr each.

(d) Four (4) 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, consisting of airless spray and air atomization spray using no controls and exhausting inside the building.

(f) Three (3) 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.

Unpermitted Emission Units and Pollution Control Equipment

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

Existing Approvals

The source has been operating under previous Registration 039-11688-00251, issued on February 7, 2000.

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

Registration 039-11688-00251, issued on February 7, 2000:

(a) Condition 2: Particulate Control requirement: The closed box and spray hood shall be used at all times the surface coating is in operation. Reason not incorporated: The surface coating uses less than five gallons of coating per day. Pursuant to 326 IAC 6-3-1(b)(15), the surface coating is exempt form the requirements of 326 IAC 6-3.

(b) Condition 3: Volatile Organic Compound (VOC) Limitation: Actual input of VOC to Mill #4 shall not exceed 15 pounds per day. Therefore, requirements of 326 IAC 8-2-9 will not apply.

Reason not incorporated: The Permittee has changed the surface coating formulation and materials usage in Mill #4 such that the daily potential to emit of VOC from Mill #4 is less than 15 pounds per day. Therefore, limits and recordkeeping are not necessary to insure that emissions of VOC do not exceed fifteen pounds per day and trigger the applicability of 326 IAC 8-2-9.

(c) Condition 4: Record Keeping Requirements: To document compliance with Condition #3, the Permittee shall maintain records in accordance with (a) through (f) below…

Reason not incorporated: The Permittee has changed the materials formulations and materials usage in Mill #4. Limits are not necessary. Recordkeeping is not necessary to demonstrate compliance with the limits.

Justification for the Revision

This Registration level source is transitioning to an Exemption level source pursuant to 326 IAC 2-1.1-3 because Bull Moose Tube Company will be operating a source that consists solely of emission units, operations, or processes that are exempt from the registration and permitting requirements of 326 IAC 2 because the potential to emit any regulated pollutant from the entire source is less than the emission thresholds establishing the requirement to have a registration or permit under 326 IAC 2. See TSD Appendix A for calculations of potential to emit from the source.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on February 13, 2006.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. These calculations are provided in Appendix A of this document (pages 1 through 5).

Potential to Emit of the Source Before Controls

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/yr)
PM	0.35
PM-10	0.62
SO_2	0.03
VOC	3.17
CO	3.9
NO_x	4.7

HAPs	Potential to Emit (tons/yr)
Xylene	0.39
Toluene	0.39
All others	0.26
Total	1.04

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of pollutants are less than the levels listed in 326 IAC 2-1.1-3(d)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-1.1-1(16)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3. An exemption will be issued.

(c) Fugitive Emissions
Since this type of operation is not in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM-10	Attainment
PM 2.5	Attainment
SO_2	Attainment
NO_2	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
CO	Attainment
Lead	Attainment

(a) Elkhart County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

(b) 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 the ozone standards. Elkhart County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.

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

Source Status

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 greater, no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories. Pursuant to 326 IAC 2-1.1-3, the entire source is exempt.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this Exemption 039-22650-00251, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

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

(c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this review for this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this review for this source.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County and the potential to emit of all regulated pollutants is less than one hundred (100) tons per year. 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 Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability – Individual Facilities

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.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

(a) 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.

(b) The particulate from the tube forming operation identified as Mill#9 shall be limited to 32.0 pounds per hour based an a process weight rate of 21.5 tons of steel tubes per hour.

(c) The particulate from the tube forming operation identified as Mill#4 shall be limited to 22.7 pounds per hour based an 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:

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

326 IAC 8-1-6 (Volatile Organic Compounds)

The source-wide potential to emit of VOC is less than 25 tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply.

326 IAC 8-2-9 (Surface coating emission limitations: miscellaneous metal coating operations)

The surface coating operations are located in Elkhart County, were constructed after November 1, 1980 but prior to July 1, 1990, apply surface coatings to metal, and have actual emissions of VOC less than fifteen (15) pounds per day before add-on controls. Therefore, the requirements of 326 IAC 8-2-9 do not apply.

Conclusion

The operation of this stationary metal tube forming and welding operation shall be subject to the conditions of Exemption 039-22650-00251.

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: 039-22650-00251
Reviewer: ERG/ST
Date: April 17, 2006

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	90.0%	90.0%	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 WY3085B	8.92	74.0%	11.7%	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	0.00	10.0%	0.098	90.0%	0.010
TSO-1 Black Ink	6.04	0.021	0.50	0.092	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	1.04	0.012	0.29	0.052	0.02	100%	0.000	90.0%	0.000
	Total	**0.157**	**3.77**	**0.687**	**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: 039-22650-00251
Reviewer: ERG/ST
Date: April 17, 2006

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: 039-22650-00251
Reviewer: ERG/ST
Date: April 17, 2006

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	90.0%	90.0%	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%	11.66%	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	6.04	0.024	0.58	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	1.04	0.050	1.21	0.22	0.064	100.0%	0.00	90%	0.000
	Total	**0.51**	**12.2**	**2.23**	**0.65**		**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: 039-22650-00251
Reviewer: ERG/ST
Date: April 17, 2006

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-fired Space Heaters

Company Name: Bull Moose Tube Company, Inc.
Address: 29851 CR 20 West
Exemption: 039-22650-00251
Reviewer: ERG/ST
Date: April 17, 2006

Description	Total Heat Input Capacity (MMBtu/hour)	Total Max. Potential Throughput (MMCF/year)
Space Heaters (22 units)	10.9	94

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

	Potential To Emit (tons/year)						
Emission Unit ID	**PM**	**PM10**	**SO_2**	**NO_X**	**CO**	**VOC**	**HAPs**
Space Heaters (22 units)	0.09	0.36	0.03	4.7	3.9	0.26	0.088

*PM emission factor is for filterable PM only. PM10 emission factor is for condensable and filterable PM and PM10 combined.
**Emission Factors for NOx: 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