



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

November 24, 2004

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Manchester Tank and Equipment Company / 093-19571-00010

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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 IC 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of 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-MOD.dot 9/16/03



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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Commissioner

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November 24, 2004

Mr. Ken McGaha
Manchester Tank and Equipment Company
905 "X" Street
Bedford, IN 47421

Re: 093-19571
Minor Source Modification to:
Part 70 permit No.: T093-7549-00010

Dear Mr. McGaha:

Manchester Tank and Equipment Company was issued Part 70 operating permit T093-7549-00010 on November 2, 2000 for a metal pressure vessels manufacturing plant. An application to modify the source was received on September 3, 2004. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

One (1) metal oxyfuel/plasma cutting machine, identified as PC-1, used for cutting mild steel, aluminum and stainless steel, controlled by one (1) cartridge filter.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. 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 (MPM093-19707-00010) 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 Linda Quigley at (973) 575-2555, extension 3284, or call (800) 451-6027, press 0 and ask for extension (3-6878).

Sincerely,

Original Signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
Technical Support Document
Minor Source Modification

LQ/EVP

cc:
File - Lawrence County
Lawrence County Health Department
Air Compliance Section Inspector - Ray Schick
Compliance Data Section
Administrative and Development
Technical Support and Modeling



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PART 70 OPERATING PERMIT OFFICE OF AIR QUALITY

Manchester Tank and Equipment Company 905 "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.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

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 Quality | Issuance Date: November 2, 2000 Expiration Date: November 2, 2005 |

First Administrative Amendment, 093-14249-00010, issued August 9, 2001
First Minor Permit Modification, 093-14395-00010, issued July 24, 2001
Second Minor Permit Modification, 093-14759-00010, issued October 16, 2001
Second Administrative Amendment, 093-15412-00010, issued May 13, 2002

| | |
|---|----------------------------------|
| Third Minor Source Modification No.: 093-19571-00010 | Pages Affected: 4 |
| Issued by: Original Signed by Paul Dubenetzky Office of Air Quality | Issuance Date: November 24, 2004 |

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)] [326 IAC 2-7-1(22)]

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

| | |
|-------------------------|--|
| Responsible Official: | Ken McGaha |
| Source Address: | 905 "X" Street, Bedford, Indiana 47421 |
| Mailing Address: | 905 "X" Street, Bedford, Indiana 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)]

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;
- (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; and
- (f) One (1) metal oxyfuel/plasma cutting machine, identified as PC-1, used for cutting mild steel, aluminum and stainless steel, controlled by one (1) cartridge filter.

Indiana Department of Environmental Management Office of Air Quality

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

Source Background and Description

| | |
|--|---|
| Source Name: | Manchester Tank and Equipment Company |
| Source Location: | 905 "X" Street, Bedford, Indiana 47421 |
| County: | Lawrence |
| SIC Code: | 3443 |
| Operation Permit No.: | T093-7549-00010 |
| Operation Permit Issuance Date: | November 2, 2000 |
| Source Modification No.: | MSM 093-19571-00010 |
| Permit Modification No.: | MPM 093-19707-00010 |
| Permit Reviewer: | LQ/EVP |

The Office of Air Quality (OAQ) has reviewed a modification application from Manchester Tank and Equipment Company relating to the construction and operation of a metal oxyfuel/plasma cutting machine.

History

On September 3, 2004, Manchester Tank and Equipment Company submitted an application to the OAQ requesting to add a metal oxyfuel/plasma cutting machine to their existing plant. Manchester Tank and Equipment Company was issued a Part 70 permit on November 2, 2000.

New Emission Units and Pollution Control Equipment

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

One (1) metal oxyfuel/plasma cutting machine, identified as PC-1, used for cutting mild steel, aluminum and stainless steel, controlled by one (1) cartridge filter.

Unpermitted Emission Units and Pollution Control Equipment

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

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 Administrative Amendment No.: 093-14249-00010, issued on August 9, 2001;
- (b) First Minor Permit Modification No.: 093-14395-00010, issued on July 24, 2001;
- (c) Second Minor Permit Modification No.: 093-14759-00010, issued on October 16, 2001; and
- (d) Second Administrative Amendment No.: 093-15412-00010, issued on May 13, 2002.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Minor Source Modification and Minor Permit 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 September 3, 2004. Additional information was received on September 24, 2004, October 8, 2004, and October 14, 2004.

Emission Calculations

See Appendix A of this document for detailed emissions calculations, page one (1) of one (1).

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 | 21.99 |
| PM-10 | 21.99 |
| SO ₂ | 0.00 |
| VOC | 0.00 |
| CO | 0.00 |
| NO _x | 0.00 |

| HAP's | Potential To Emit (tons/year) |
|------------|-------------------------------|
| Arsenic | Less than 10 |
| Cadmium | Less than 10 |
| Chromium | Less than 10 |
| Manganese | Less than 10 |
| Nickel | Less than 10 |
| Phosphorus | Less than 10 |
| Lead | Less than 10 |
| Antimony | Less than 10 |
| Selenium | Less than 10 |
| TOTAL | Less than 25 |

Justification for Modification

The Title V permit is being modified through a Minor Source Modification and Minor Permit Modification. The minor source modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4) because it is a modification which has the potential to emit less than twenty-five (25) tons per year, but greater than five (5) tons per year of PM and PM10. The minor permit modification is being performed pursuant to 326 IAC 2-7-12, because pursuant to 326 IAC 2-7-10.5(e)(3)(A)(i), operation of the modification may commence in accordance with 326 IAC 2-7-12.

County Attainment Status

The source is located in Lawrence County.

| Pollutant | Status |
|-----------------|------------|
| PM-10 | Attainment |
| SO ₂ | Attainment |
| NO ₂ | Attainment |
| 1-hour Ozone | Attainment |
| 8-hour Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

- (a) 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 emissions and NOx are considered when evaluating the rule applicability relating to ozone. Lawrence County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Lawrence 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. See the State Rule Applicability for the source section.

Source Status

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

| Unit | PM (tons/yr) | PM10 (tons/yr) | SO2 (tons/yr) | NOx (tons/yr) | VOC (tons/yr) | CO (tons/yr) | Comb. HAPs (tons/yr) |
|----------------|--------------|----------------|---------------|---------------|---------------|--------------|----------------------|
| Source PTE | 85.79 | 86.79 | 0.02 | 4.25 | 53.72 | 3.88 | 44.85 |
| PSD Levels | 250 | 250 | 250 | 250 | 250 | 250 | - |
| Part 70 Levels | - | 100 | 100 | 100 | 100 | 100 | 25 |

- (a) This existing source is not a major PSD stationary source because no criteria pollutants are emitted at a rate greater than 250 tons per year.
- (b) This existing source is a Title V major stationary source because the combined HAP emissions exceed the applicable level of 25 tons/yr.

Potential to Emit After the Proposed Modification

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

| Unit | PM (tons/yr) | PM10 (tons/yr) | SO2 (tons/yr) | NOx (tons/yr) | VOC (tons/yr) | CO (tons/yr) | Comb. HAPs (tons/yr) |
|----------------------------|--------------|----------------|---------------|---------------|---------------|--------------|----------------------|
| Existing Source PTE | 86.79 | 86.79 | 0.02 | 4.25 | 53.72 | 3.88 | 44.85 |
| Proposed Mod. (controlled) | 0.22 | 0.22 | - | - | - | - | 7.07E-03 |
| Total | 87.01 | 87.01 | 0.02 | 4.25 | 53.72 | 3.88 | 44.86 |

| | | | | | | | |
|----------------|-----|-----|-----|-----|-----|-----|----|
| PSD Levels | 250 | 250 | 250 | 250 | 250 | 250 | - |
| Part 70 Levels | - | 100 | 100 | 100 | 100 | 100 | 25 |

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, 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) included in the permit as a result of this modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) included in the permit as a result of this modification.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is still not subject to the requirements of 326 IAC 2-2. As seen on the Potential to Emit After Modification Table above, no criteria pollutant is emitted at a rate of 250 ton per year or greater. This source is not one of the twenty-eight (28) listed source categories. Therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply to this source.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3, an emission statement must be submitted triennially by July 1 beginning in 2006 and every 3 years after. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

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:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the metal oxyfuel/plasma cutting machine will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

State Rule Applicability - Individual Facilities

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

Pursuant to 326 IAC 6-3-1(b)(10), the metal oxyfuel/plasma cutting machine is exempt from particulate emission limitations for manufacturing processes because less than three thousand four hundred (3,400) inches per hour of stock, one (1) inch thickness or less, is cut.

40 CFR Part 52 Subpart P (Process Operations)

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective; this rule was previously referred to as 326 IAC 6-3(Process Operations). As of the date this permit is being issued these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirement from the previous version of 326 IAC 6-3 (Process Operations) which has been approved into the SIP will remain an applicable requirement until the revisions to 326 IAC 6-3 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to 40 CFR 52 Subpart P, the particulate matter (PM) from the metal oxyfuel/plasma cutting machine 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:

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

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.

There are no compliance monitoring requirements applicable to this modification.

Changes Proposed

The changes listed below have been made to the Part 70 Operating Permit (T093-7549-00010).

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

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; **and**
- (f) **One (1) metal oxyfuel/plasma cutting machine, identified as PC-1, used for cutting mild steel, aluminum and stainless steel, controlled by one (1) cartridge filter.**

Conclusion

The construction and operation of this metal oxyfuel/plasma cutting machine shall be subject to the conditions of the attached proposed **Minor Source Modification No. 093-19571-00010** and **Minor Permit Modification No. 093-19707-00010**.

**Appendix A: Emissions Calculations
Metal Oxyfuel/Plasma Cutting Machine**

Company Name: Manchester Tank and Equipment Company
Address City IN Zip: 905 X Street, Bedford, Indiana 47421
MSM No.: 093-19571-00010
MPM No.: 093-19707-00010
Plt ID: 093-00010
Reviewer: Linda Quigley/EVP
Date: September 15, 2004

Plasma Cutting

| Emission Factors (lb/hr cutting) | | | |
|---|-------------------|-----------------|------------------------|
| Pollutant | Mild Steel | Aluminum | Stainless Steel |
| PM | 1.70E+00 | 5.02E+00 | 1.28E+00 |
| Arsenic | 1.70E-04 | 1.54E-03 | 1.23E-03 |
| Cadmium | 1.18E-05 | 7.48E-07 | 0.00E+00 |
| Chromium | 5.80E-05 | 2.65E-04 | 5.85E-02 |
| Manganese | 1.60E-02 | 8.76E-04 | 7.08E-02 |
| Nickel | 4.04E-04 | 7.03E-05 | 3.05E-02 |
| Phosphorus | 7.00E-04 | 7.38E-04 | 4.21E-04 |
| Lead | 1.17E-04 | 7.88E-05 | 2.89E-06 |
| Antimony | 5.05E-06 | 8.07E-05 | 0.00E+00 |
| Selenium | 5.48E-05 | 8.07E-06 | 5.11E-05 |

Note: Emission factors (lb/hr cutting) are supplied by manufacturer.

| Pollutant | Uncontrolled | | | | | | Controlled | | |
|------------------|-------------------------------|-----------------|------------------------|--|-----------------|------------------------|--|-----------------|------------------------|
| | Emission Rate in lb/yr | | | Emission Rate in ton/yr cutting | | | Emission Rate in ton/yr cutting | | |
| | Mild Steel | Aluminum | Stainless Steel | Mild Steel | Aluminum | Stainless Steel | Mild Steel | Aluminum | Stainless Steel |
| PM | 14892.00 | 43975.20 | 11212.80 | 7.45 | 21.99 | 5.61 | 0.07 | 0.22 | 0.06 |
| Arsenic | 1.49 | 13.49 | 10.77 | 7.45E-04 | 6.75E-03 | 5.39E-03 | 7.45E-06 | 6.75E-05 | 5.39E-05 |
| Cadmium | 0.10 | 0.01 | 0.00 | 5.17E-05 | 3.28E-06 | 0.00E+00 | 5.17E-07 | 3.28E-08 | 0.00E+00 |
| Chromium | 0.51 | 2.32 | 512.46 | 2.54E-04 | 1.16E-03 | 2.56E-01 | 2.54E-06 | 1.16E-05 | 2.56E-03 |
| Manganese | 140.16 | 7.67 | 620.21 | 7.01E-02 | 3.84E-03 | 3.10E-01 | 7.01E-04 | 3.84E-05 | 3.10E-03 |
| Nickel | 3.54 | 0.62 | 267.18 | 1.77E-03 | 3.08E-04 | 1.34E-01 | 1.77E-05 | 3.08E-06 | 1.34E-03 |
| Phosphorus | 6.13 | 6.46 | 3.69 | 3.07E-03 | 3.23E-03 | 1.84E-03 | 3.07E-05 | 3.23E-05 | 1.84E-05 |
| Lead | 1.02 | 0.69 | 0.03 | 5.12E-04 | 3.45E-04 | 1.27E-05 | 5.12E-06 | 3.45E-06 | 1.27E-07 |
| Antimony | 0.04 | 0.71 | 0.00 | 2.21E-05 | 3.53E-04 | 0.00E+00 | 2.21E-07 | 3.53E-06 | 0.00E+00 |
| Selenium | 0.48 | 0.07 | 0.45 | 2.40E-04 | 3.53E-05 | 2.24E-04 | 2.40E-06 | 3.53E-07 | 2.24E-06 |
| HAP Total | 153.48 | 32.04 | 1414.78 | 7.67E-02 | 1.60E-02 | 7.07E-01 | 7.67E-04 | 1.60E-04 | 7.07E-03 |

Worst case HAP = Manganese

Emission Factors supplied by manufacturer.

The metal oxyfuel/plasma cutting machine consists of one (1) plasma torch and two (2) oxyfuel torches. It has the ability to cut using one plasma torch, one oxyfuel torch, or two oxyfuel torches simultaneously. Potential emissions provided for the plasma cutting torch is the worst case scenario for this cutting machine.

Potential emissions based on assumption that each material is used 8,760 hours.

Controlled emissions based on cartridge filter control efficiency of 99.0 %