



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
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TO: Interested Parties / Applicant
DATE: June 14, 2007
RE: CTP Corporation (Endress) / 081-24463-00061
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

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
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Thomas W. Easterly
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Mr. Dan Seybert
CTP Corporation (Endress)
604 East LaGrange Avenue
Indianapolis, Indiana 46203

June 14, 2007

Dear Mr. Dan Seybert:

Re: Exempt Operation Status,
081-24463-00061

The application from CTP Corporation (Endress), received on March 16, 2007, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, IDEM, OAQ has determined that the following acid wash line for cleaning metal parts and welding operations, located at 2615 Endress Place, Greenwood, Indiana 46413, is classified as exempt from air pollution permit requirements:

- (a) One (1) acid tank, constructed in 2006, with a maximum capacity of 2.5 lbs/hour using aqueous solutions containing zero percent (0%) by weight of VOCs and HAPs. The acid cleaner contains phosphoric acid (Cas No. 7664-38-2) and gluconic acid (Cas No. 526-95-4).
- (b) One (1) soap tank, constructed in 2006, with a maximum capacity of 2.5 lbs/hour using aqueous solutions containing zero percent (0%) by weight of VOCs and HAPs. The soap cleaner contains petroleum naphtha (Cas No. 64742-48-9), petroleum oil (Cas No. 64742-65-0), and 2-butoxyethanol (Cas No. 111-76-2).
- (c) One (1) natural gas-fired boiler, constructed in 2006, with a maximum heat input capacity of 0.3125 MMBtu per hour and exhausting to stacks S1 and S2.
- (d) One (1) MIG welding operation, constructed in 2006, consuming less than five (5) pounds of rod or wire per hour and cutting less than three thousand four hundred (3,400) inches per hour of stock one (1) inch thickness.
- (e) One (1) TIG welding operation, constructed in 2006, consuming less than five (5) pounds of rod or wire per hour and cutting less than three thousand four hundred (3,400) inches per hour of stock one (1) inch thickness.
- (f) Paved roads and parking lots with public access.

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 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.
- (2) Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions) the Permittee 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 (Fugitive Dust Emissions).
- (3) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the allowable particulate emission rate from the natural gas-fired boiler shall not exceed 0.60 lb/MMBtu when operating at a maximum heat input capacity of 0.3125 MMBtu/hr.

This exemption is the first air approval issued to this source.

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 Bryan Lange, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7854 to speak directly to Mr. Lange. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 or call (800) 451-6027, ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Original Signed By:

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

ERG/BL

cc: File - Johnson County
Johnson County Health Department
Air Compliance - Vaughn Ison
Permit Tracking
Compliance Data Section
Program Planning and Policy – Scott Delaney
Billing, Licensing, and Training Section - Dan Stamatkin

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

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	CTP Corporation (Endress)
Source Location:	2615 Endress Place, Greenwood, IN 46143
County:	Johnson
SIC Code:	3498
Permit Exemption No.:	E081-24463-00061
Permit Reviewer:	ERG/BL

The Office of Air Quality (OAQ) has reviewed an application from CTP Corporation (Endress) relating to the operation of an acid wash line for cleaning metal parts and welding operation in preparation for shipping.

Emission Units and Pollution Control Equipment

The source consists of the following emission units:

- (a) One (1) acid tank, constructed in 2006, with a maximum capacity of 2.5 lbs/hour using aqueous solutions containing zero percent (0%) by weight of VOCs and HAPs. The acid cleaner contains phosphoric acid (Cas No. 7664-38-2) and gluconic acid (Cas No. 526-95-4).
- (b) One (1) soap tank, constructed in 2006, with a maximum capacity of 2.5 lbs/hour using aqueous solutions containing zero percent (0%) by weight of VOCs and HAPs. The soap cleaner contains petroleum naphtha (Cas No. 64742-48-9), petroleum oil (Cas No. 64742-65-0), and 2-butoxyethanol (Cas No. 111-76-2).
- (c) One (1) natural gas-fired boiler, constructed in 2006, with a maximum heat input capacity of 0.3125 MMBtu per hour and exhausting to stacks S1 and S2.
- (d) One (1) MIG welding operation, constructed in 2006, consuming less than five (5) pounds of rod or wire per hour and cutting less than three thousand four hundred (3,400) inches per hour of stock one (1) inch thickness.
- (e) One (1) TIG welding operation, constructed in 2006, consuming less than five (5) pounds of rod or wire per hour and cutting less than three thousand four hundred (3,400) inches per hour of stock one (1) inch thickness.
- (f) Paved roads and parking lots with public access.

Existing Approvals

This exemption will be the first air approval issued to this 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 March 16, 2007.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

Potential to Emit 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	1.09
PM10	1.07
SO ₂	8.05x10 ⁻⁴
VOC	0.01
CO	0.11
NO _x	0.13

HAPs	Potential to Emit (tons/yr)
Total Combined HAPs	4.46x10 ⁻³

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM-10, SO₂, VOC, CO, and NO_x are less than the thresholds in 326 IAC 2-1.1-3(e). Therefore, this source is subject to the provisions of 326 IAC 2-1.1-3.
- (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 the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7. An exemption will be issued.
- (c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) 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 Johnson County.

Pollutant	Status
PM10	Attainment
PM2.5	Nonattainment
SO ₂	Attainment
NO ₂	Attainment
8-hour Ozone	Basic Nonattainment
CO	Attainment
Lead	Attainment

Note: On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

- (a) U.S. EPA in Federal Register Notice 70 FR 943 dated January 5, 2005 has designated Johnson County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office on behalf of IDEM filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of non-attainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM10 emissions as a surrogate for PM2.5 emissions pursuant to the Non-attainment New Source Review requirements. See the State Rule Applicability - Entire Source section.
- (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. Johnson County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability - Entire Source section.
- (c) Johnson County has been classified as attainment or unclassifiable in Indiana for PM10, SO₂, NO₂, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section.
- (d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 (PSD) or 2-3 (Emission Offset) 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.

Source Status

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

Pollutant	Emissions (tons/yr)
PM	1.09
PM-10	1.07
SO ₂	8.05x10 ⁻⁴
VOC	0.01
CO	0.11
NO _x	0.13
Combination HAPs	4.46x10 ⁻³

- (a) This new source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This new source is not a major stationary source under Emission Offset because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.
- (c) These emissions were based on the application submitted by the company.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is 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 is the first air approval issued to this source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this exemption.
- (b) The requirements of the NSPS, 40 CFR Part 60, Subpart D, Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 (326 IAC 12) are not included in this exemption because the heat input of the boiler (0.3125 MMBtu/hr) is less than 250 MMBtu/hr.
- (c) The requirements of the NSPS, 40 CFR Part 60, Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12) are not included in this exemption because the maximum design heat input capacity of the boiler is less than 10 MMBtu/hr.
- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this exemption.
- (e) This source is not subject to the requirements of the NESHAP for Halogenated Solvent Cleaning, 40 CFR Part 63, Subpart T (326 IAC 20-6) because it does not use any solvent

containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent.

- (f) The requirements of the NESHAP 40 CFR Part 63, Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters (326 IAC 20-95) are not included in this exemption for the boiler. This source is not a major source of HAPs.
- (g) The requirements of the NESHAP 40 CFR Part 63, Subpart CCC, Steel Pickling - HCl Process Facilities and Hydrochloric Acid Regeneration Plants (326 IAC 20-29) are not included in this exemption. The source does not meet the definition of a steel pickling facility as defined in 40 CFR 63.1156 and this source is not a major source of HAPs.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration), 326 IAC 2-3 (Emission Offset), and 326 IAC 2-1.1-5 (Nonattainment Area New Source Review)

This source was constructed in 2006 and is not in one of the 28 listed source categories. This source is located in Johnson County, which is currently designated attainment for PM, PM₁₀, SO₂, NO₂, CO, and Lead standards, and nonattainment for the 8-hour ozone and PM_{2.5} standards. This source is not subject to 326 IAC 2-2, 326 IAC 2-3 or 326 IAC 2-1.1-5 because it is a minor source with emissions below the following thresholds:

- (a) The potential to emit PM, CO, NO₂, and SO₂, are each less than 250 tons per year; and
- (b) The potential to emit VOC, NO_x, and PM₁₀ (used as surrogate for PM_{2.5}) are each less than 100 tons per year.

326 IAC 2-4.1 (New Source Toxics Control)

The operation of CTP Corporation (Endress) will emit less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in Johnson County, is not required to operate under a Part 70 Permit, and does not have the potential to emit greater than or equal to five (5) tons per year of lead. Therefore this source is subject only to the additional information requests under 326 IAC 2-6-5.

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.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee 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 (Fugitive Dust Emissions).

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

The source is located in Johnson County and was constructed after December 13, 1985. However, the fugitive particulate emissions from the paved parking lots are negligible. Pursuant to 326 IAC 6-5-1(b), this source is exempt from the requirements of 326 IAC 6-5.

State Rule Applicability – Soap and Acid Tank

326 IAC 8-1-6 (Best Available Control Technology (BACT))

The soap and acid tank are not subject to the requirements of 326 IAC 8-1-6, since the potential VOC emissions from the soap and acid tank are less than twenty-five (25) tons per year. Any change that causes the potential to emit VOC these tanks to exceed twenty-five (25) tons per year must receive approval from IDEM, OAQ before such a change may occur.

326 IAC 8-3 (Organic Solvent Degreasing Operations)

The soap and acid tank are not performing organic solvent degreasing operations, as defined by 326 IAC 1-2-18.5 because these tanks do not utilize organic solvents as defined by 326 IAC 1-2-72. Therefore, the soap and acid tanks are not subject to the requirements of 326 IAC 8-3.

State Rule Applicability – Welding and Boiler

326 IAC 7-1.1-1 (Sulfur Dioxide emission limitations)

The potential to emit of sulfur dioxide from the boiler is less than twenty-five (25) tons per year and ten (10) pounds per hour. Therefore, 326 IAC 7-1.1-1 does not apply to the boiler.

326 IAC 10-1-3 (Nitrogen Oxide requirements)

The source does not have a potential to emit equal to or more than one-hundred (100) tons of NO_x per year. Therefore, 326 IAC 10-1-3 does not apply to the boiler.

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

- (a) Pursuant to 326 IAC 6-3-1(b)(9), the welding operations are not subject to the requirements of 326 IAC 6-3-2 because the source consumes less than six hundred twenty-five (625) pounds of rod or wire per day.
- (b) The natural gas boiler is not subject to the provisions of 326 IAC 6-3. Sources of indirect heating are exempt from the provisions of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes).

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The boiler was constructed after September 21, 1983. Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the total particulate emissions from the boiler shall not exceed 0.6 pound per million Btu of heat input.

326 IAC 8-1-6 (Best Available Control Technology (BACT))

The potential VOC emissions from the welding operations and the natural gas-fired boilers are each less than twenty-five (25) tons per year. Therefore, 326 IAC 8-1-6 does not apply.

Conclusion

The operation of an acid wash line for cleaning metal parts and welding operation shall be subject to the conditions of the Exemption 081-24463-00061.

**Appendix A: Emissions Calculations
Emission Summary**

Company Name: CTP Corporation (Endress)
Address: 2615 Endress Place, Greenwood, IN 46143
Exemption: 081-24463-00061
Reviewer: ERG/BL
Date: April 11, 2007

	Potential To Emit (tons/year)						
	PM	PM10	SO ₂	VOC	CO	NOx	HAPs
Welding Operations	1.06	1.06	-	-	-	-	1.93E-03
Combustion	2.55E-03	0.01	8.05E-04	0.01	0.11	0.13	2.54E-03
Paved Roads	0.03	0.01	-	-	-	-	-
Total	1.09	1.07	8.05E-04	0.01	0.11	0.13	4.46E-03

Appendix A: Emissions Calculations
Particulate and HAP Emissions From Welding Operations

Company Name: CTP Corporation (Endress)
Address: 2615 Endress Place, Greenwood, IN 46143
Exemption: 081-24463-00061
Reviewer: ERG/BL
Date: April 11, 2007

Welding (ID #)	Number of Stations	Electrode Consumption Per Station (lbs/hour)	Emission Factors *			Potential to Emit		
			(lbs pollutant/1,000 lbs electrode consumed)			(tons/year)		
			PM / PM10	Cr	Mn	PM / PM10	Cr	Mn
Metal Inert Gas (1)	1	5.0	24.1	0.01	0.034	0.53	2.19E-04	7.45E-04
Metal Inert Gas (2)	1	5.0	24.1	0.01	0.034	0.53	2.19E-04	7.45E-04
Total						1.06	4.38E-04	1.49E-03

MIG welders use ER5154 wire (worst case)

* MIG welding emission factors are from AP-42, Chapter 12.19 - Electric Arc Welding, Tables 12.19-1 and 12.19-2 (January 1995)

Methodology

PTE (tons/year) = Number of Stations x Electrode Consumption (lbs/hour) x Emission Factor (lbs /1,000 lbs electrode) x 8,760 hours/year x 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Combustion Emissions from Natural Gas-fired Heaters
MM BTU/HR <100

Company Name: CTP Corporation (Endress)
Address: 2615 Endress Place, Greenwood, IN 46143
Exemption: 081-24463-00061
Reviewer: ERG/BL
Date: April 11, 2007

Total Heat Input Capacity (MMBtu/hour) 0.31

Potential Throughput (MMscf/year) 2.68
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Emission Factor (lbs/MMscf) *	Pollutant						
	PM**	PM10**	SO ₂	NO _x ***	VOC	CO	HAPs
PTE (tons/year)	2.55E-03	0.01	8.05E-04	0.13	0.01	0.11	2.54E-03

* Emission factors are from AP-42, Chapter 1.4, 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 (7/98).

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

*** Emission factor for NO_x (Uncontrolled) = 100 lb/MMscf.

All emission factors are based on normal firing.

Methodology

Potential Throughput (MMscf/year) = Heat Input Capacity (MMBtu/hour) x 8,760 hours/year x 1 MMscf/1,020 MMBtu

PTE (tons/year) = Potential Throughput (MMscf/year) x Emission Factor (lbs/MMscf) x 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Particulate Matter from Fugitive Sources, Paved Roads

Company Name: CTP Corporation (Endress)
Address: 2615 Endress Place, Greenwood, IN 46143
Exemption: 081-24463-00061
Reviewer: ERG/BL
Date: April 11, 2007

Paved Roads

Maximum Vehicular Speed: 10 mph
Average Round Trip Distance of Haul: 0.03 miles
Round Trips Per Day 6.00
Weighted Average Gross Weight: 7.5 tons

Calculations:

$$E = k(sL/2)^{0.65} * (W/3)^{1.5}$$

E = Emission factor (lbs/vehicle miles traveled (VMT))

k = 0.016 particle size multiplier for PM10

0.082 particle size multiplier for PM

sL = 9.7 road surface silt content (g/m²) (for Iron and steel production)

W = 7.5 weighted average vehicle weight (tons)

VMT = Average Round Trip Distance of Haul (miles) x Round Trips Per Day x 365 days/yr

VMT = 62.6 (miles/yr)

$$E = \frac{PM}{VMT} = 0.90 \text{ lbs/VMT}$$

Potential PM Emissions (tons/yr) = Emission factor (lbs/VMT) x VMT (mi/yr) x 1 ton/2,000 lbs
Potential PM Emissions (tons/yr) = **0.03 tons/yr**

$$E = \frac{PM-10}{VMT} = 0.18 \text{ lbs/VMT}$$

Potential PM-10 Emissions (tons/yr) = Emission factor (lbs/VMT) x VMT (mi/yr) x 1 ton/2,000 lbs
Potential PM-10 Emissions (tons/yr) = **0.01 tons/yr**

Emission factor equations from AP-42, Chapter 13.2.1 - Paved Roads (November 2006)