



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: January 13, 2006
RE: Copperfield, LLC / 099-21897-00094
FROM: Paul Dubenetzky
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 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204-2251
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Mr. Jason Nine
Copperfield, LLC
1115 West Plymouth Street
Bremen, Indiana 46506

January 13, 2006

Re: Exempt Construction and Operation Status,
099-21897-00094

Dear Mr. Nine:

The application from Copperfield, LLC received on October 7, 2005 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 insulated wire manufacturing plants located at 1115 West Plymouth Street and 515 Copperfield Way, Bremen, Indiana, is classified as exempt from air pollution permit requirements:

Plant 1

- (a) Insulated wire fabrication process, constructed in 2002 and consisting of the following:
 - (1) Wire bunchers.
 - (2) Nine (9) continuous vulcanization lines for the production of insulated copper wire, coating a maximum of 4,400 pounds of copper wire per hour.
 - (3) Nine (9) printers used for ink stamping along the length of manufactured wire, with a maximum combined usage rate of 0.50 pounds ink per hour.
- (b) One (1) natural gas-fired boiler (identified as B1) with a maximum heat input capacity of 3.4 MMBtu per hour. This unit was installed in 2002.
- (c) Five (5) natural gas-fired space heaters (identified as H1, H2, H3, H5, and H6), each with maximum heat input capacity of 0.3 MMBtu per hour. These units were installed in 2002.

Plant 2

- (a) Insulated wire fabrication process with a maximum throughput rate of 5,000 pounds per hour of copper, 1,000 pounds per hour of PVC, and 500 pounds per hour of silicone and consisting of the following:
 - (1) One (1) rod drawing machine, installed in September 2005;
 - (2) One (1) wire drawing machine, installed in September 2005;

- (3) Twelve (12) wire bunchers installed in September 2005;
 - (4) One (1) silicone insulation line, installed in 2002;
 - (5) Four (4) PVC extrusion lines, two installed in 2002 and two installed in September 2005;
 - (6) One (1) continuous vulcanization line for the production of insulated copper wire installed in September 2005; and
 - (7) Nineteen (19) wire insulation braiders, installed in 2002.
- (b) Insulated wire lacquer application process with a maximum throughput of 5,000 inches of insulated wire per hour and a maximum usage rate of one (1) gallon of lacquer per hour. This unit was installed in 2002.
- (c) One (1) natural gas-fired boiler (identified as B2) with a maximum heat input capacity of 4.2 MMBtu per hour. This unit was installed in September 2005.
- (d) Six (6) natural gas-fired space heaters (identified as TC1 through TC6), with a maximum combined heat input capacity of 2.60 MMBtu per hour. Two of these units were installed in 2002 and four were installed in September 2005.

The following conditions shall be applicable:

- (a) 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:
- (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 15 minutes (60 readings) in a 6-hour period 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.
- (b) Pursuant to 326 IAC 6-2-4 (a), the PM emissions from facilities used for indirect heating purposes which were constructed after September 21, 1983 and having a total source heat input capacity of less than ten (10) MMBtu per hour, shall in no case exceed 0.60 pounds of particulate matter per million British thermal units heat input. Therefore, the one (1) 3.4 MMBtu per hour natural gas-fired boiler (B1) and one (1) 4.20 MMBtu per hour natural gas-fired boiler (B2) shall be limited to 0.60 pounds of particulate matter per MMBtu heat input, each.

This exemption is the second 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 Ms. Sanober Durrani, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7810 to speak directly to Ms. Durrani. 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
Nysa James, Section Chief
Permits Branch
Office of Air Quality

ERG/SD

cc: File – Marshall County
Marshall County Health Department
Air Compliance – Rick Reynolds
Northern Regional Office
Permit Tracking
Compliance Data Section

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

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Copperfield, LLC
Source Location:	515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen Indiana 46506
County:	Marshall
SIC Code:	2822, 3357
Operation Permit No.:	099-21897-00094
Permit Reviewer:	ERG/SD

The Office of Air Quality (OAQ) has reviewed an application from Copperfield, LLC relating to the operation of an insulated wire manufacturing plant.

History

On October 7, 2005, Copperfield, LLC submitted an application to IDEM, OAQ requesting an approval for construction and operation of a stationary insulated wire manufacturing facility to be located at 515 Copperfield way, Bremen, Indiana.

Copperfield, LLC was issued an Exemption No.: 099-18260-00094 on January 7, 2004 for its existing insulated wire manufacturing facility located at 1115 West Plymouth Street, Bremen, Indiana. The Permittee has indicated that the two (2) facilities will be under common control, have the same operations and the shortest distance between the two (2) properties is approximately 5,000 feet. Even though the two (2) facilities will not have common employees, circumstances may arise that output from the two facilities will be provided to and/or received by the other. Therefore, the two (2) facilities are collocated.

Source Definition

This company consists of two (2) plants:

- (a) Plant 1 is located at 1115 West Plymouth Street, Bremen, Indiana.
- (b) Plant 2 is located at 515 Copperfield Way, Bremen, Indiana.

IDEM, OAQ has determined that since Plant 1 and Plant 2 are owned by the same company, have the same operations, operate under the same SIC and the shortest distance between the two (2) properties is approximately 5,000 feet, the two plants are considered as one source.

Exempt Emission Units and Pollution Control Equipment

The source consists of the following exempt emission units:

Plant 1

- (a) Insulated wire fabrication process, constructed in 2002 and consisting of the following:

- (1) Wire bunchers.
 - (2) Nine (9) continuous vulcanization lines for the production of insulated copper wire, coating a maximum of 4,400 pounds of copper wire per hour.
 - (3) Nine (9) printers used for ink stamping along the length of manufactured wire, with a maximum combined usage rate of 0.50 pounds ink per hour.
- (b) One (1) natural gas-fired boiler (identified as B1) with a maximum heat input capacity of 3.4 MMBtu per hour. This unit was installed in 2002.
- (c) Five (5) natural gas-fired space heaters (identified as H1, H2, H3, H5, and H6), each with maximum heat input capacity of 0.3 MMBtu per hour. These units were installed in 2002.

Plant 2

- (a) Insulated wire fabrication process with a maximum throughput rate of 5,000 pounds per hour of copper, 1,000 pounds per hour of PVC, and 500 pounds per hour of silicone and consisting of the following:
- (1) One (1) rod drawing machine, installed in September 2005;
 - (2) One (1) wire drawing machine, installed in September 2005;
 - (3) Twelve (12) wire bunchers installed in September 2005;
 - (4) One (1) silicone insulation line, installed in 2002;
 - (5) Four (4) PVC extrusion lines, two installed in 2002 and two installed in September 2005;
 - (6) One (1) continuous vulcanization line for the production of insulated copper wire installed in September 2005; and
 - (7) Nineteen (19) wire insulation braiders, installed in 2002.
- (b) Insulated wire lacquer application process with a maximum throughput of 5,000 inches of insulated wire per hour and a maximum usage rate of one (1) gallon of lacquer per hour. This unit was installed in 2002.
- (c) One (1) natural gas-fired boiler (identified as B2) with a maximum heat input capacity of 4.2 MMBtu per hour. This unit was installed in September 2005.
- (d) Six (6) natural gas-fired space heaters (identified as TC1 through TC6), with a maximum combined heat input capacity of 2.60 MMBtu per hour. Two of these units were installed in 2002 and four were installed in September 2005.

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 the following previous approvals:

(a) Exemption No.: 094-18260-00094, issued January 7, 2004.

All conditions from previous approvals were incorporated into this permit.

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.

An application for the purposes of this review was received on October 7, 2005, with additional information received on December 12, 2005.

Emission Calculations

See Appendix A of this document for detailed emission calculations (page 1 through 8).

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/year)
PM	0.38
PM10	0.38
SO ₂	0.03
VOC	3.87
CO	4.22
NO _x	5.22

Pollutant	Potential to Emit (tons/year)
Benzene	1.06E-04
Dichlorobenzene	6.03E-05
Formaldehyde	3.77E-03
Hexane	0.09
Toluene	0.62
Cyclohexanone	0.65
MEK	0.21
Total	1.57

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of all criteria pollutants is 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 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 one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 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 Marshall County.

Pollutant	Status
PM10	Attainment
PM 2.5	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Marshall 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. See the State Rule Applicability - Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Marshall County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for nonattainment new source review. See the State Rule Applicability - Entire Source section.
- (c) Marshall County has been classified as attainment 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 - Entire Source section.

Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	0.38
PM10	0.38
SO ₂	0.03
VOC	3.87
CO	4.22
NO _x	5.02
Single HAP	<10
Combination HAPs	<25

- (a) This existing source is not a major stationary source (under PSD) because no regulated pollutant (under PSD) is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the potential to emit calculations for the source (see Appendix A).

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing 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 second air approval issued to this source.

Federal Rule Applicability

- (a) The requirements of New Source Performance Standard (NSPS), 40 CFR 60, Subpart Dc - Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (326 IAC 12) are not included in this exemption for the natural gas-fired boilers (identified as B1 and B2). This NSPS applies only to boilers or process heaters with a maximum heat input capacity greater than ten (10) MMBtu per hour. The natural gas-fired boilers at the source operate at a maximum heat input capacity of 3.4 and 4.29 MMBtu per hour, respectively.
- (b) The requirements of the New Source Performance Standard (NSPS), 40 CFR 60, Subpart QQ - Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing (326 IAC 12), are not included in this exemption because this NSPS applies only to rotogravure printing presses. Copperfield, LLC does not operate any rotogravure presses at their plant.

There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit.

- (c) The requirements of 40 CFR Part 63, Subpart KK - National Emission Standards for the Printing and Publishing Industry (NESHAP)(326 IAC 20) are not included in this exemption because this source is not a major source of hazardous air pollutants (HAPs).

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

State Rule Applicability – Entire Source

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

Copperfield, LLC was constructed in 2002 and is not one (1) of the twenty-eight (28) source categories. At the time of construction, the potential to emit of each criteria pollutant before control was less than the 250 tons per year PSD threshold. All modifications at the source since its construction did not result in potential to emit of each criteria pollutant equal to or greater than 250 tons per year. Therefore, the provisions of 326 IAC 2-2, PSD do not apply.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit under 326 IAC 2-7 (Part 70 program).

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

Although constructed after the July 27, 1997 applicability date for this rule, the source is not subject to the requirements of 326 IAC 2-4.1 because it is not a major source of HAPs.

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 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 – Insulated Wire Fabrication Process

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The Permittee is not subject to the provisions of 326 IAC 8-1-6, because the potential emissions of VOC from the insulated wire fabrication processes at this source does not result in VOC emissions due to the following reasons:

PVC insulation extrusion line, Silicone insulation extrusion line, continuous insulation vulcanization line: according to the MSDS as supplied by the Permittee, for the material used in the above three lines (i.e. PVC compounders, silicon, or vinyl material), there are no VOC emissions associated with the processing of the products.

Wire insulation braiders: this equipment applies a braided fiberglass thread covering to the product supplied from the silicon extrusion line, and the wire is accumulated on spools for further processing. This process results in no emissions of VOC.

Wire bunchers: this equipment takes multiple spools of wire from the wire drawing machine and twists them into the final wire product of the required diameter, and again accumulates the wire on spools for further processing. This process results in no VOC emissions.

Rod drawing machine: this equipment reduces the diameter of the raw material to the required specifications, which is later accumulated on spools for further processing. There are no VOC emissions generated from this machine.

Wire drawing machine: This machine further reduces the diameter of the copper wire on the spools from the rod drawing machine to the required final diameter. There are no VOC emissions generated from this machine.

Printers: the Permittee is not subject to the provisions of 326 IAC 8-1-6, because the potential emissions of VOC from the printers at this source are less than twenty-five (25) tons per year.

326 IAC 8-5-5 (Graphic Arts Operation)

The printers used at this source do not meet the definition of packaging rotogravure printers, publication rotogravure printers, or flexographic printers as defined in 326 IAC 8-5-5(b).

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

The provisions of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) are not applicable to the insulated wire fabrication processes because according to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the provisions of this rule.

State Rule Applicability – Insulated wire lacquer application process

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

The Permittee is not subject to the provisions of 326 IAC 8-1-6, because the potential emissions of VOC from the insulated wire lacquer application process at this source are less than twenty-five (25) tons per year.

State Rule Applicability – Boilers

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

Pursuant to 326 IAC 6-2-4(a), the PM emission limit from the natural gas-fired boilers both constructed after September 21, 1983 are as follows:

Emission Unit	Fuel Used	Year of Installation	Maximum Heat Input Capacity (MMBtu per hour)	* Calculated PM Limit (lbs per MMBtu)	Applicable 326 IAC 6-2-4 PM Limit (lb per MMBtu)
Boiler B1	Natural Gas	2002	3.40	0.79	** 0.60
Boiler B2	Natural Gas	2005	4.20	0.64	** 0.60

* These limitations are based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

where

Pt =emission rate limit (lbs/MMBtu)

Q = total source heat input capacity rating in million Btu per hour (MMBtu/hour)

** 326 IAC 6-2-4(a) also states that an indirect heating unit having a total source heat input capacity less than ten (10) MMBtu per hour shall in no case exceed 0.6 pounds of PM per MMBtu heat input. Since the 0.6 pounds PM per MMBtu emission limit is less than the limit calculated above for the 3.40 MMBtu per hour natural gas-fired boiler (B1), the natural gas-fired boiler (B1) shall be limited to 0.6 pounds of PM per MMBtu heat input; and since the total source heat input capacity rating for both boilers (B1 and B2) is less than 10 MMBtu per hour, boiler B2 shall be limited to less than 0.6 pounds of PM per MMBtu heat input.

State Rule Applicability - Natural Gas-Fired Space Heaters

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

The natural gas-fired space heaters are not subject to the provisions of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) because according to 326 IAC 6-3-1(b)(14) manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pounds per hour are exempt from the provisions of this rule.

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

The natural gas-fired space heaters are not subject to the provisions of 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) because these units are not indirect heating units.

Conclusion

The operation of this stationary insulated wire manufacturing plant shall be subject to the conditions of this Exemption No.: 099-21897-00094.

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Two (2) Boilers**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Plt ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMSCF/year)

7.60

65.3

	Pollutant					
	* PM	* PM10	SO ₂	** NO _x	VOC	CO
Emission Factor (lb/MMSCF)	7.60	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.25	0.25	0.02	3.26	0.18	2.74

* PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

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

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMSCF/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMSCF/1020 MMBtu

PTE (tons/year) = Potential throughput (MMSCF/year) * Emission factor (lb/MMSCF) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Two (2) Boilers**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Pit ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMSCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	6.85E-05	3.92E-05	2.45E-03	5.87E-02	1.11E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMSCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	1.63E-05	3.59E-05	4.57E-05	1.24E-05	6.85E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Eleven (11) Space Heaters**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Plt ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

Heat Input Capacity
(MMBtu/hour)

Potential Throughput
(MMSCF/year)

4.10 (11 units total)

35.2

	Pollutant					
	* PM	* PM10	SO ₂	** NO _x	VOC	CO
Emission Factor (lb/MMSCF)	7.60	7.60	0.60	100	5.50	84.0
Potential To Emit (tons/year)	0.13	0.13	0.01	1.76	0.10	1.48

* PM and PM10 emission factors are filterable and condensable PM and PM10 combined.

**Emission factor for NOx (Uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998).

All emission factors are based on normal firing.

METHODOLOGY

Potential throughput (MMSCF/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMSCF/1020 MMBtu

PTE (tons/year) = Potential throughput (MMSCF/year) * Emission factor (lb/MMSCF) * 1 ton/2000 lbs

See next page for HAPs emissions calculations.

Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Eleven (11) Space Heaters

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Pit ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMSCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential To Emit (tons/year)	3.70E-05	2.11E-05	1.32E-03	3.17E-02	5.99E-05

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMSCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential To Emit (tons/year)	8.80E-06	1.94E-05	2.46E-05	6.69E-06	3.70E-05

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1.4-3 and 1.4-4 (July, 1998). Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
Insulated Wire Laquer Application**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Plt ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

Process	Material	Density (lb/gal)	* Weight % Volatile (H ₂ O & Organics)	Weight % Acetone	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Max. Usage (gal/hour)	Pounds VOC per gallon of coating	PTE VOC (lbs/hour)	PTE VOC (tons/year)
Insulated Wire Laquer Application	Modified Butyrate Flame Resistant Lacquer Cellulose S/B Paint	7.30	84.2%	82.0%	2.20%	0.0%	15.8%	1.00	0.16	0.16	0.70

Total (tons/year) = 0.70

* 82 % Weight Volatile is Acetone, which is not a VOC.

** Laquer application is done via dipping process and it does not contain HAPs.

METHODOLOGY

Pounds of VOC per Gallon Coating = Density (lb/gal) * Weight % Organics

PTE of VOC (lbs/hour) = Pounds of VOC per Gallon Coating (lb/gal) * Max.Usage (gal/hour)

PTE of VOC (tons/year) = Pounds of VOC per Gallon Coating (lb/gal) * Max.Usage (gal/hour) * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Printers**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Plt ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

Location 515 Copperfield Way, Bremen

Printer ID	Location	Max. Usage (gal/year)	Density (lb/gal)	Weight % VOC	Weight % Cyclohexanone	Weight % MEK	Weight % Toluene	Potential To Emit (tons/year)			
								VOC	Cyclohexanone	MEK	Toluene
P1	PVC1 - PVC Extrusion Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P2	PVC2 - PVC Extrusion Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P3	SIL1 - Silicone Extrusion Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P4	LAT1 - Lacquer App Tower	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P5	PVC3 - PVC Extrusion Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P6	PVC4 - PVC Extrusion Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02
P7	VUL1 - Continuous Ins Vulcanization Line	30.0	7.90	80%	77.9%	25%	75%	0.09	9.23E-02	2.96E-02	8.89E-02

Total in tons/year) = 0.66 0.65 0.21 0.62

Note, printers P1 through P4 are existing, and printers P5 through P7 are new.

METHODOLOGY

PTE of VOC/HAPs (tons/year) = Density (lb/gal) * Max. Usage (gal/year) * Weight % VOC/HAPs * 1 ton/2000 lbs

Location 1115 West Plymouth Street, Bremen

Printer ID	Number of Printers	Max. Usage (lbs/hour)	Weight % VOC	PTE of VOC (tons/year)
NA	9.0	0.50	80%	1.75

Note, the maximum usage of 0.50 pounds per hour is for all nine (9) printers.

METHODOLOGY

PTE of VOC (tons/year) = Max. Usage (lbs/hour) * Weight % VOC * 8760 hours/year * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Cleaning Agent used in Printers**

Company Name: Copperfield, LLC

Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 46506

Exemption: 099-21897

Pit ID: 099-00094

Reviewer: ERG/SD

Date: January 5, 2006

Location 515 Copperfield Way, Bremen

Printer ID	Location	Material	Max. Usage (gal/year)	Density (lb/gal)	Weight % VOC	PTE of VOC (tons/year)
P1	PVC1 - PVC Extrusion Line	Chem-Aqua	11.0	9.90	55%	0.03
P2	PVC2 - PVC Extrusion Line	Chem-Aqua	11.0	9.90	55%	0.03
P3	SIL1 - Silicone Extrusion Line	Chem-Aqua	11.0	9.90	55%	0.03
P4	LAT1 - Lacquer App Tower	Chem-Aqua	11.0	9.90	55%	0.03
P5	PVC3 - PVC Extrusion Line	Chem-Aqua	11.0	9.90	55%	0.03
P6	PVC4 - PVC Extrusion Line	Chem-Aqua	11.0	9.90	55%	0.03
P7	VUL1 - Continuous Ins Vulcanization Line	Chem-Aqua	11.0	9.90	55%	0.03

Total (tons/year) = 0.21

Note, printers P1 through P4 are existing, and printers P5 through P7 are new.

METHODOLOGY

PTE of HAPs (tons/year) = Density (lb/gal) * Max. Usage (gal/year) Weight % HAP * 1 ton/2000 lbs

Location 1115 West Plymouth Street, Bremen

Printer ID	Number of Printers	Max. Usage (gal/year)	Density (lb/gal)	Weight % VOC	PTE of VOC (tons/year)
NA	9.0	11.0	9.90	55%	0.27

METHODOLOGY

PTE of VOC (tons/year) = Density (lb/gal) * Max. Usage (gal/year) * Number of printers * Weight % VOC * 1 ton/2000 lbs

**Appendix A: Emission Calculations
Summary**

Company Name: Copperfield, LLC
Address: 515 Copperfield Way, Bremen, Indiana 46506 and 1115 West Plymouth Street, Bremen, Indiana 465
Exemption: 099-21897
Pit ID: 099-00094
Reviewer: ERG/SD
Date: January 5, 2006

Emission Unit	PM	PM10	SO ₂	NO _x	VOC	CO	HAPs
Natural Gas-Fired Space Heaters	0.25	0.25	0.02	3.26	0.18	2.74	6.14E-02
Natural Gas-Fired Boilers	0.13	0.13	0.01	1.76	0.10	1.48	0.03
Lacquer Application					0.70		
Printers					2.42		1.48
Cleaning Agent					0.48		
TOTAL	0.38	0.38	0.03	5.02	3.87	4.22	1.57