



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: March 20, 2009

RE: C & D Technologies, Inc. / 045-19413-00008

FROM: Matthew Stuckey, Branch 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 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, 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 and IC 13-15-6-1 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 of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, 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.dot12/03/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

C&D Technologies, Inc.
200 West Main Street
Attica, Indiana 47918

(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. 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 2-8 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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

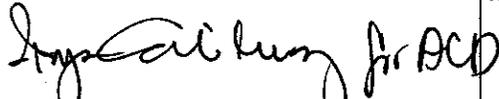
| | |
|---|--|
| Operation Permit No.: F045-19413-00008 | |
| Issued by:  Alfred C. Dumaul, Ph. D., Section Chief Permits Branch Office of Air Quality | Issuance Date: March 20, 2009 Expiration Date: March 20, 2019 |

TABLE OF CONTENTS

| | |
|---|-----------|
| A. SOURCE SUMMARY | 5 |
| A.1 General Information [326 IAC 2-8-3(b)] | |
| A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)] | |
| A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)] | |
| A.4 FESOP Applicability [326 IAC 2-8-2] | |
| B. GENERAL CONDITIONS | 11 |
| B.1 Definitions [326 IAC 2-8-1] | |
| B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)] | |
| B.3 Term of Conditions [326 IAC 2-1.1-9.5] | |
| B.4 Enforceability [326 IAC 2-8-6][IC 13-17-12] | |
| B.5 Severability [326 IAC 2-8-4(4)] | |
| B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)] | |
| B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)] | |
| B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)] | |
| B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)] | |
| B.10 Compliance Order Issuance [326 IAC 2-8-5(b)] | |
| B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)] | |
| B.12 Emergency Provisions [326 IAC 2-8-12] | |
| B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] | |
| B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)] | |
| B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)] | |
| B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8] | |
| B.17 Permit Renewal [326 IAC 2-8-3(h)] | |
| B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1] | |
| B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1] | |
| B.20 Source Modification Requirement [326 IAC 2-8-11.1] | |
| B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2] [IC 13-30-3-1] | |
| B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10] | |
| B.23 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-8-4(6)][326 IAC 2-8-16] [326 IAC 2-1.1-7] | |
| B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314][326 IAC 1-1-6] | |
| C. SOURCE OPERATION CONDITIONS | 20 |
| Emission Limitations and Standards [326 IAC 2-8-4(1)] | |
| C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2] | |
| C.2 Overall Source Limit [326 IAC 2-8] | |
| C.3 Opacity [326 IAC 5-1] | |
| C.4 Open Burning [326 IAC 4-1][IC 13-17-9] | |
| C.5 Incineration [326 IAC 4-2][326 IAC 9-1-2] | |
| C.6 Fugitive Dust Emissions [326 IAC 6-4] | |
| C.7 Fugitive Lead Dust Emissions [326 IAC 15-1-3] | |
| C.8 Stack Height [326 IAC 1-7] | |
| C.9 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M] | |
| Testing Requirements [326 IAC 2-8-4(3)] | |
| C.10 Performance Testing [326 IAC 3-6] | |
| Compliance Requirements [326 IAC 2-1.1-11] | |

C.11 Compliance Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]
- C.13 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]
- C.14 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-8-4(3)]
[326 IAC 2-8-5(1)]

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- C.15 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]
- C.16 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]
- C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4]
[326 IAC 2-8-5]

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]
- C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)][326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 FACILITY OPERATION CONDITIONS: 27

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Lead-Acid Battery Manufacturing Plants [40 CFR Part 60, Subpart A][326 IAC 12-1]
- D.1.2 New Source Performance Standards (NSPS) for Lead-Acid Battery Manufacturing Plants [40 CFR Part 60, Subpart KK][326 IAC 12-1]
- D.1.3 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead-Acid Battery Manufacturing Area Sources [40 CFR Part 63, Subpart A][326 IAC 20-1]
- D.1.4 Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead-Acid Battery Manufacturing Area Sources [40 CFR Part 63, Subpart PPPPPP][326 IAC 20-1]
- D.1.5 Lead Battery Production and Lead Emission Limitations [326 IAC 2-8][326 IAC 2-2]
- D.1.6 Particulate [326 IAC 6-3-2]
- D.1.7 PM and PM_{2.5} Emission Limitations [326 IAC 2-2]
- D.1.8 PM₁₀ Limitations [326 IAC 2-8-4][326 IAC 2-2]
- D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1) and (4)][326 IAC 2-1.1-11]
- D.1.11 Particulate Control

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

- D.1.12 Visible Emissions Notations
- D.1.13 Parametric Monitoring
- D.1.14 Baghouse Inspections
- D.1.15 Scrubber Inspection
- D.1.16 Broken or Failed Bag Detection
- D.1.17 Scrubber Failure Detection

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

- D.1.18 Record Keeping Requirement
- D.1.19 Reporting Requirements

SECTION D.2 FACILITY OPERATION CONDITIONS: Insignificant Activities 43

Emission Limitations and Standards [326 IAC 2-8-4(1)]

- D.2.1 Particulate Limitations [326 IAC 6-2-4]
- D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
- D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

Certification Form 46
Emergency Occurrence Form 47
FESOP Production Report Form 49
Quarterly Deviation and Compliance Monitoring Report Form 50

- Attachment A: Fugitive Dust Control Plan
- Attachment B: 40 CFR 60, Subpart KK, Standards of Performance for Lead-Acid
Battery Manufacturing Plants
- Attachment C: 40 CFR 63, Subpart P, National Emission Standards for
Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources

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 2-8-3(b)]

The Permittee owns and operates a stationary custom industrial battery manufacturing source.

| | |
|------------------------------|--|
| Source Address: | 200 West Main Street, Attica, Indiana 47918 |
| Mailing Address: | P.O. Box 279, Attica, Indiana 47918-0279 |
| General Source Phone Number: | 765-762-2461 |
| SIC Code: | 3691 |
| County Location: | Fountain |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories |

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

Casting

- (a) One (1) small parts casting operation, known as EU 0100A, installed in 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 1,446 pounds of lead pigs per hour.
- (b) One (1) small parts flaming operation, known as EU 0100B, installed in 1977, last modified October 13, 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 488 pounds of small parts per hour.
- (c) One (1) grid casting operation, known as EU 0200A, installed in 1977, equipped with a Farr 60LL cartridge dust collector, exhausting through Stack 196, capacity: 5,197 pounds of lead pigs per hour.
- (d) Three (3) natural gas-fired grid curing ovens, known as EU 0200B through EU 0200D, installed in 2000, exhausting through Stacks 226 - 228, respectively, rated at 0.200 million British thermal units per hour each, total process capacity: 6,100 pounds of casted lead grid plates per hour.

Pasting

- (e) Pneumatic conveying of positive lead oxide from trucks to a storage silo, known as EU 0300A, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 232, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.
- (f) One (1) negative lead oxide storage silo, known as EU 0300B, installed in 1983, last modified June 10, 1983, equipped with a Flex-Kleen Model 84 dust collector, exhausting to the indoors through bin vent 85, with a maximum silo loading rate of 45,000 pounds of

- negative lead oxide per hour. Storage silo EU 0300B is not connected to the pneumatic conveyance system and is not in use.
- (g) Pneumatic conveying of negative lead oxide from trucks to a storage silo, known as EU 0300Bn, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 233, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.
 - (h) Pneumatic conveying of positive lead oxide from storage silo EU 0300A to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of positive lead oxide per hour.
 - (i) Pneumatic conveying of negative lead oxide from storage silo EU 0300Bn to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of negative lead oxide per hour.
 - (j) One (1) paste mixing system, known as EU 0300C, installed in 2000, consisting of two (2) weigh hoppers and two (2) mixing tubs, with emissions controlled by two (2) Tri Mer wet scrubbers that exhaust through Stack 231, capacity: 6,268 pounds of negative and positive lead oxide, expander, and dilute sulfuric acid per hour.
 - (k) One (1) expander manufacturing operation, known as EU 0300D, installed in 1983, equipped with Farr Model 24 LS dust collector, exhausting through Stack 159, capacity: 312 pounds of lead oxide, carbon black, barytes, and barium sulfate per hour.
 - (l) One (1) grid pasting system, known as EU 0300E, installed in 2000, equipped with a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
 - (m) Two (2) natural gas-fired flash dry ovens, known as PA025 and PA026 approved for construction in 2009, exhausting through Stacks 249 and 250 respectively, rated at 1.6 million British thermal units per hour each, total process capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
 - (n) Four (4) natural gas-fired humidity ovens, known as EU 0300 F, G, H and I, installed prior to 1999, exhausting through Stacks 26, 27, 28 and 29, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
 - (o) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0300 J, K, L and M, installed prior to 1999, exhausting through Stacks 179, 180, 193 and 194, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
 - (p) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0500E through EU 0500H, installed in 2000, exhausting through Stacks 234, 235, 237 and 238, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,456 pounds of lead plates per hour.
 - (q) Four (4) natural gas-fired bone dry curing ovens, known as BDO-7 through BDO-10, installed prior to 1999, exhausting through Stacks 23, 24, 165 and 25, respectively, rated at 0.050 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.

Three Process Operation

- (r) Two (2) enclosed pasted plate processing machines, known as PA027 and PA028, approved for construction in 2009, consisting of brushing and stacking of pasted lead plates, with excess lead oxide powder collected in trays and lead oxide air emissions controlled by a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
- (s) One (1) 3PO-plate processing operation, known as EU 0700B, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 152, capacity: 2,914 pounds of plate frames per hour.
- (t) One (1) 3PO-plate processing operation, known as EU 0700C, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 151, capacity: 2,914 pounds of plate frames per hour.
- (u) One (1) 3PO-plate processing operation, known as EU 0700E, installed in 1995, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 160 pounds of plate frames per hour.
- (v) One (1) 3PO-plate processing operation, known as EU 0700F, installed in 2001, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 8,473 pounds of plate frames per hour.
- (w) One (1) 3PO-L plate assembly operation, known as EU 0800A, installed March 30, 1984, equipped with an American air filter dust collector, exhausting through Stack 140, capacity: 1,444 pounds of cured plates and small parts per hour.
- (x) One (1) 3PO-L plate assembly operation, known as EU 0800B, installed in 1988, last modified April 8, 1988, equipped with an American air filter dust collector, exhausting through Stack 166, capacity: 2,165 pounds of positive and negative plates and small parts per hour.
- (y) One (1) 3PO-L plate assembly operation, known as EU 0800C, installed in 1984, last modified March 30, 1984, equipped with an OSI #10 dust collector, exhausting through Stack 142, capacity: 2,165 pounds of cured plates and small parts per hour.
- (z) One (1) 3PO-MP assembly, known as EU 0800D, installed in 1993, last modified January 1, 1993, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 2,404 pounds of cured plates and small parts and cell covers per hour.
- (aa) One (1) 3PO-JC/D assembly, known as EU 0800E, installed in 1994, last modified December 5, 1994, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 174 pounds of cured plates and small parts and cell covers per hour limited by the formation bottleneck to 56,550 pounds per month (44.5% of capacity) and 4.943 liters of cover adhesive per month.
- (bb) One (1) 3PO-MCT assembly, known as EU 0800F, installed in 1999, equipped with a Farr 48D dust collector, exhausting through Stack 188, capacity: 3,813 pounds of lead plates and small parts and cell covers per hour.
- (cc) One (1) L-cell cover adhesive station, known as EU 0800G, installed in 1982, exhausting through Stack 167, capacity: 4,000 pounds of L-cells per hour.
- (dd) One (1) 3PO-L cell cover insert, known as EU 0800H, installed in 1984, last modified March 30, 1984, equipped with two (2) Torit dust collectors, exhausting through Stack

141, capacity: 600 pounds of assembled cells per hour.

- (ee) One (1) LCT 1700 Assembly with two jigs, known as EU 0800K, installed in December 2000, equipped with a Farr dust collector, exhausting through Stack 244, capacity: 1,302 pounds of plates and small parts and cell covers per hour.

Formation

- (ff) One (1) tank dry formation, known as EU 0900A, installed in 1990, last modified March 5, 1990, exhausting through Stack 178, capacity: 200 pounds of lead plates per hour.
- (gg) One (1) tank wet formation, known as EU 0900B, installed in 1990, capacity: 3,420 pounds of dry batteries per hour (fugitive).
- (hh) One (1) tank wet formation, known as EU 0900C, installed in 2000, capacity: 2,215 pounds of completed dry cells per hour (fugitive).

Central Vac

- (ii) One (1) 3 process central vacuum, known as Maint2000A, installed in 1980, exhausting through Stack 113.
- (jj) One (1) central vacuum #2, known as Maint2000B, installed October 6, 1980, exhausting through Stack 129.
- (kk) One (1) 3 process central vacuum, known as Maint2000C, installed in 1980, exhausting through Stack 130.
- (ll) One (1) 3 process central vacuum, known as Maint2000D, installed in 1980, exhausting through Stack 131.
- (mm) One (1) casting and pasting central vacuum, known as Maint2000E, installed November 19, 1999, exhausting through Stack 224.

Polyurethane Room

- (nn) One (1) polyurethane battery topping, known as Misc, installed in 1990, exhausting through Stack 160, using 30 gallons of a non-hazardous, non-chlorinated cleaning solvent per month.

Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, emission units (a) through (ee), and (ii) through (mm) listed above are considered affected facilities. [40 CFR 60, Subpart KK][326 IAC 12][40 CFR 63, Subpart P]

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour consisting of various existing facilities rated at total of 54.36 million British thermal units per hour. Additional natural gas-fired combustion sources include:

Casting

- (1) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 163, rated at 0.690 million British thermal units per hour.

- (2) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 164, rated at 1.050 million British thermal units per hour.
- (3) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 236, rated at 0.340 million British thermal units per hour.

Pasting

- (4) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 239, rated at 0.340 million British thermal units per hour.

LCT Assembly

- (5) One (1) natural gas-fired rapid air heater, installed in December 2000, exhausting through Stack 245, rated at 1.650 million British thermal units per hour.

Plate Storage Area

- (6) One (1) natural gas-fired universal oven boiler, installed in December 2000, exhausting through Stack 225, rated at 0.340 million British thermal units per hour.

Charging

- (7) One (1) natural gas-fired rapid air heater, installed in December 2000, exhausting through Stack 243, rated at 0.750 million British thermal units per hour.
- (b) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2][326 IAC 8-3-5]
- (d) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (e) Cleaning - alcohol, mineral spirits, parts washer; gluing; paint; carbon steel welding. VOC less than 3 pounds per hour or 15 pounds per day, PM less than 5 pounds per hour or 25 pounds per day.
- (f) Three (3) electric LCT 1700 battery curing ovens, installed in 2000, exhausting through Stack 246, capacity: 1,302 pounds of plates and small parts and cell covers per hour. Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, these units are considered affected facilities. [40 CFR 60, Subpart KK][326 IAC 12][40 CFR 63, Subpart P]
- (g) Twelve (12) sulfuric acid solution storage tanks.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F045-19413-00008, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-8-6][IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U.S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.12 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
 - (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F045-19413-00008 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-8-4(6)][326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314][326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

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, unless otherwise stated in this 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.

C.4 Open Burning [326 IAC 4-1][IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2][326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.6 Fugitive Dust Emissions [326 IAC 6-4]

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).

C.7 Fugitive Lead Dust Emissions [326 IAC 15-1-3]

Pursuant to 326 IAC 15-1-3 (Lead emission limitations: control of fugitive lead dust),

- (a) No source shall create or maintain outdoor storage of bulk materials containing more than one percent (1.0%) lead by weight of less than two hundred (200) mesh size particles.
- (b) All materials containing more than one percent (1.0%) lead by weight of less than two hundred (200) mesh size particles shall be transported in closed containers or shall be transported by enclosed conveying systems that are vented to the atmosphere through particulate matter control equipment or shall be transported wet.
- (c) Control programs shall be designed to minimize emissions of lead from all nonprocess fugitive emission points. The programs shall include good housekeeping practices for the cleanup of spills and for minimizing emissions from loading and unloading areas as applicable. Fugitive lead dust shall be controlled according to the plan submitted on April 25, 2003. The plan is included as Attachment A.

C.8 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.9 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.10 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.11 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.12 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.13 Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.14 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.15 Risk Management Plan [326 IAC 2-8-4][40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.16 Response to Excursions or Exceedances [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.

- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial startup, whichever is later.

C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)][326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Casting

- (a) One (1) small parts casting operation, known as EU 0100A, installed in 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 1,446 pounds of lead pigs per hour.
- (b) One (1) small parts flaming operation, known as EU 0100B, installed in 1977, last modified October 13, 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 488 pounds of small parts per hour.
- (c) One (1) grid casting operation, known as EU 0200A, installed in 1977, equipped with a Farr 60LL cartridge dust collector, exhausting through Stack 196, capacity: 5,197 pounds of lead pigs per hour.
- (d) Three (3) natural gas-fired grid curing ovens, known as EU 0200B through EU 0200D, installed in 2000, exhausting through Stacks 226 - 228, respectively, rated at 0.200 million British thermal units per hour each, total process capacity: 6,100 pounds of casted lead grid plates per hour.

Pasting

- (e) Pneumatic conveying of positive lead oxide from trucks to a storage silo, known as EU 0300A, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 232, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.
- (f) One (1) negative lead oxide storage silo, known as EU 0300B, installed in 1983, last modified June 10, 1983, equipped with a Flex-Kleen Model 84 dust collector, exhausting to the indoors through bin vent 85, with a maximum silo loading rate of 45,000 pounds of negative lead oxide per hour. Storage silo EU 0300B is not connected to the pneumatic conveyance system and is not in use.
- (g) Pneumatic conveying of negative lead oxide from trucks to a storage silo, known as EU 0300Bn, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 233, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.
- (h) Pneumatic conveying of positive lead oxide from storage silo EU 0300A to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of positive lead oxide per hour.
- (i) Pneumatic conveying of negative lead oxide from storage silo EU 0300Bn to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of negative lead oxide per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emissions Unit Description: Continued

- (j) One (1) paste mixing system, known as EU 0300C, installed in 2000, consisting of two (2) weigh hoppers and two (2) mixing tubs, with emissions controlled by two (2) Tri Mer wet scrubbers that exhaust through Stack 231, capacity: 6,268 pounds of negative and positive lead oxide, expander, and dilute sulfuric acid per hour.
- (k) One (1) expander manufacturing operation, known as EU 0300D, installed in 1983, equipped with Farr Model 24 LS dust collector, exhausting through Stack 159, capacity: 312 pounds of lead oxide, carbon black, barytes, and barium sulfate per hour.
- (l) One (1) grid pasting system, known as EU 0300E, installed in 2000, equipped with a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
- (m) Two (2) natural gas-fired flash dry ovens, known as PA025 and PA026 approved for construction in 2009, exhausting through Stacks 249 and 250 respectively, rated at 1.6 million British thermal units per hour each, total process capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
- (n) Four (4) natural gas-fired humidity ovens, known as EU 0300 F, G, H and I, installed prior to 1999, exhausting through Stacks 26, 27, 28 and 29, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
- (o) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0300 J, K, L and M, installed prior to 1999, exhausting through Stacks 179, 180, 193 and 194, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
- (p) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0500E through EU 0500H, installed in 2000, exhausting through Stacks 234, 235, 237 and 238, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,456 pounds of lead plates per hour.
- (q) Four (4) natural gas-fired bone dry curing ovens, known as BDO-7 through BDO-10, installed prior to 1999, exhausting through Stacks 23, 24, 165 and 25, respectively, rated at 0.050 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.

Three Process Operation

- (r) Two (2) enclosed pasted plate processing machines, known as PA027 and PA028, approved for construction in 2009, consisting of brushing and stacking of pasted lead plates, with excess lead oxide powder collected in trays and lead oxide air emissions controlled by a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
- (s) One (1) 3PO-plate processing operation, known as EU 0700B, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 152, capacity: 2,914 pounds of plate frames per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emissions Unit Description: Continued

- (t) One (1) 3PO-plate processing operation, known as EU 0700C, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 151, capacity: 2,914 pounds of plate frames per hour.
- (u) One (1) 3PO-plate processing operation, known as EU 0700E, installed in 1995, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 160 pounds of plate frames per hour.
- (v) One (1) 3PO-plate processing operation, known as EU 0700F, installed in 2001, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 8,473 pounds of plate frames per hour.
- (w) One (1) 3PO-L plate assembly operation, known as EU 0800A, installed March 30, 1984, equipped with an American air filter dust collector, exhausting through Stack 140, capacity: 1,444 pounds of cured plates and small parts per hour.
- (x) One (1) 3PO-L plate assembly operation, known as EU 0800B, installed in 1988, last modified April 8, 1988, equipped with an American air filter dust collector, exhausting through Stack 166, capacity: 2,165 pounds of positive and negative plates and small parts per hour.
- (y) One (1) 3PO-L plate assembly operation, known as EU 0800C, installed in 1984, last modified March 30, 1984, equipped with an OSI #10 dust collector, exhausting through Stack 142, capacity: 2,165 pounds of cured plates and small parts per hour.
- (z) One (1) 3PO-MP assembly, known as EU 0800D, installed in 1993, last modified January 1, 1993, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 2,404 pounds of cured plates and small parts and cell covers per hour.
- (aa) One (1) 3PO-JC/D assembly, known as EU 0800E, installed in 1994, last modified December 5, 1994, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 174 pounds of cured plates and small parts and cell covers per hour limited by the formation bottleneck to 56,550 pounds per month (44.5% of capacity) and 4.943 liters of cover adhesive per month.
- (bb) One (1) 3PO-MCT assembly, known as EU 0800F, installed in 1999, equipped with a Farr 48D dust collector, exhausting through Stack 188, capacity: 3,813 pounds of lead plates and small parts and cell covers per hour.
- (cc) One (1) L-cell cover adhesive station, known as EU 0800G, installed in 1982, exhausting through Stack 167, capacity: 4,000 pounds of L-cells per hour.
- (dd) One (1) 3PO-L cell cover insert, known as EU 0800H, installed in 1984, last modified March 30, 1984, equipped with two (2) Torit dust collectors, exhausting through Stack 141, capacity: 600 pounds of assembled cells per hour.
- (ee) One (1) LCT 1700 Assembly with two jigs, known as EU 0800K, installed in December 2000, equipped with a Farr dust collector, exhausting through Stack 244, capacity: 1,302 pounds of plates and small parts and cell covers per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emissions Unit Description: Continued

Formation

- (ff) One (1) tank dry formation, known as EU 0900A, installed in 1990, last modified March 5, 1990, exhausting through Stack 178, capacity: 200 pounds of lead plates per hour.

Central Vac

- (ii) One (1) 3 process central vacuum, known as Maint2000A, installed in 1980, exhausting through Stack 113.
- (jj) One (1) central vacuum #2, known as Maint2000B, installed October 6, 1980, exhausting through Stack 129.
- (kk) One (1) 3 process central vacuum, known as Maint2000C, installed in 1980, exhausting through Stack 130.
- (ll) One (1) 3 process central vacuum, known as Maint2000D, installed in 1980, exhausting through Stack 131.
- (mm) One (1) casting and pasting central vacuum, known as Maint2000E, installed November 19, 1999, exhausting through Stack 224.

Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, emission units (a) through (ee), and (ii) through (mm) listed above are considered affected facilities. [40 CFR 60, Subpart KK][326 IAC 12][40 CFR 63, Subpart P]

Insignificant Activities

- (f) Three (3) electric LCT 1700 battery curing ovens, installed in 2000, exhausting through Stack 246, capacity: 1,302 pounds of plates and small parts and cell covers per hour. Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, these units are considered affected facilities. [40 CFR 60, Subpart KK][326 IAC 12][40 CFR 63, Subpart P]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Lead-Acid Battery Manufacturing Plants [40 CFR Part 60, Subpart A][326 IAC 12-1]

Pursuant to 40 CFR 60.370, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, as specified in 40 CFR Part 60, Subpart KK in accordance with schedule in 40 CFR 60 Subpart KK.

D.1.2 New Source Performance Standards (NSPS) for Lead-Acid Battery Manufacturing Plants [40 CFR Part 60, Subpart KK][326 IAC 12-1]

-
- (a) The Permittee, which engages in lead oxide battery manufacturing, shall comply with the following provisions of 40 CFR Part 60, Subpart KK (included as Attachment B of this permit):

- (1) 40 CFR 60.370
- (2) 40 CFR 60.371
- (3) 40 CFR 60.372
- (4) 40 CFR 60.373
- (5) 40 CFR 60.374

(b) Pursuant to 40 CFR Part 60.372; the Permittee shall comply with the following:

- (1) the grid casting facilities (EU 0100A, EU 0100B, and EU 0200A) shall not emit any gases that contain in excess of 0.000175 grains of lead per dry standard cubic foot of exhaust,
- (2) the grid curing ovens (EU 0200B - D), the pasting operations (EU 0300A, B, Bn, C, and E), the expander manufacturing operation (EU 0300D), flash dry ovens (PA025 and PA026), the plate curing ovens (EU 0300F - M, EU500E - H, and BDO-7 - 10), the three process operations (PA027, PA028, EU 0700B, C, E, F, EU0800A - H, K), the Central Vac operations (Maint2000A - E), and the LCT 1700 battery curing ovens shall not emit any gases that contain in excess of 0.000437 grains of lead per dry standard cubic foot of exhaust
- (3) the grid casting facilities exhaust stacks (195 and 196), the grid curing oven exhaust stacks (226 - 228), the pasting operations exhaust stacks (232, 85, 233, 231, and 230), the expander manufacturing operation exhaust stack (159), flash dry oven exhaust stacks (249 and 250), the plate curing ovens exhaust stacks (26 - 29, 179, 180, 193, 194, 234, 235, 237, 238, 127, 247, 23, 24, 165 and 25), the three process operations exhaust stacks (230, 152, 151, 127, 247, 140, 166, 142, 188, 167, 141, and 244), the Central Vac operations exhaust stacks (113, 129, 130, 131, and 224), and the LCT 1700 battery curing ovens exhaust stack (246) shall be limited to zero (0) percent opacity.

D.1.3 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead-Acid Battery Manufacturing Area Sources [40 CFR Part 63, Subpart A][326 IAC 20-1]

Pursuant to 40 CFR 63.11421, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, as specified in 40 CFR Part 63, Subpart PPPPPP in accordance with schedule in 40 CFR 63 Subpart PPPPPP.

D.1.4 Emission Standards for Hazardous Air Pollutants (NESHAP) for Lead-Acid Battery Manufacturing Area Sources [40 CFR Part 63, Subpart PPPPPP][326 IAC 20-1]

The Permittee, which engages in lead oxide battery manufacturing, shall comply with the following provisions of 40 CFR Part 63, Subpart PPPPPP (included as Attachment C of this permit), with a compliance date of July, 16 2008:

- (1) 40 CFR 63.11421
- (2) 40 CFR 63.11422
- (3) 40 CFR 63.11423
- (4) 40 CFR 63.11424
- (5) 40 CFR 63.11425
- (6) 40 CFR 63.11426
- (7) 40 CFR 63.11427

D.1.5 Lead Battery Production and Lead Emission Limitations [326 IAC 2-8][326 IAC 2-2]

- (a) The production of lead batteries shall be less than 2,000 batteries per day, with compliance determined at the end of each day.
- (b) Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, lead emissions from the individual emissions units shall not exceed the following:

| Operation/Stack ID | Hourly Lead Emission Limits (pounds per hour) |
|---|---|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.07920 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.09900 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.01236 0.01236 0.01236 |
| Paste mixing system (EU 0300C) Stack 231 | 0.03461 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.06098 |
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 0.31417 total |
| Flash dry oven (PA025) Stack 249 | 0.00742 |
| Flash dry oven (PA026) Stack 250 | 0.00742 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00348 0.00348 0.00348 0.00348 |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193 and 194 | 0.00227 0.00227 0.00227 0.00227 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237 and 238 | 0.00227 0.00227 0.00227 0.00227 |
| Natural gas-fired Bone Dry ovens (BDO-7 through BDO-10) Stacks 23, 24, 165 and 25 | 0.00227 0.00227 0.00227 0.00227 |
| 3PO-plate processing (EU 0700B) Stack 152 | 0.16481 |
| 3PO-plate processing (EU 0700C) Stack 151 | 0.16481 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 0.10713 total |

| Operation/Stack ID | Hourly Lead Emission Limits (pounds per hour) |
|--|---|
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 0.41203 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.08570 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 0.08570 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 0.07087 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 0.20601 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.01978 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.18129 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.00989 |
| Central Vacuum (Maint2000A) Stack 113 | 0.00412 |
| Central Vacuum (Maint2000B) Stack 129 | 0.00412 |
| Central Vacuum (Maint2000C) Stack 130 | 0.00412 |
| Central Vacuum (Maint2000D) Stack 131 | 0.00412 |
| Central Vacuum (Maint2000E) Stack 224 | 0.00412 |
| Total | 2.21 |

Compliance with these limits, combined with the potential lead emissions from all other emission units at this source, shall limit the source-wide total potential to emit lead to less than 10 tons per 12 consecutive month period, and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.1.6 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from the facilities listed in this section shall not exceed the allowable emission rates listed in the following table:

| Operation/Stack ID | Process Weight Rate (pounds per hour) | 326 IAC 6-3-2 Allowable Particulate Emission Rate (pounds per hour) |
|---|---------------------------------------|---|
| Grid casting operation (EU 0200A) Stack 196 | 5,197 | 7.77 |
| Paste mixing system (EU 0300C) Stack 231 | 6,268 | 8.81 |
| Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 17264 | 17.38 |
| 3PO-plate processing (EU 0700B) Stack 152 | 4000 | 6.52 |

| Operation/Stack ID | Process Weight Rate (pounds per hour) | 326 IAC 6-3-2 Allowable Particulate Emission Rate (pounds per hour) |
|---|---------------------------------------|---|
| 3PO-plate processing (EU 0700C) Stack 151 | 4000 | 6.52 |
| 3PO-plate processing (EU 0700F) Stack 127 | 8,473 | 10.79 |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 1,444 | 3.30 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 3,400 | 5.85 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 2,165 | 4.32 |
| 3PO-MP assembly (EU 0800D) Stack 127 | 2,404 | 4.64 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 4,000 | 6.52 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 1,302 | 3.08 |
| Central Vacuum (Maint2000A) Stack 113 | 0.375 | 0.551 |
| Central Vacuum (Maint2000B) Stack 129 | 0.375 | 0.551 |
| Central Vacuum (Maint2000C) Stack 130 | 0.375 | 0.551 |
| Central Vacuum (Maint2000D) Stack 131 | 0.375 | 0.551 |
| Central Vacuum (Maint2000E) Stack 224 | 0.375 | 0.551 |

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.

D.1.7 PM and PM2.5 Emission Limitations [326 IAC 2-2]

In order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, particulate matter (PM) and particulate matter less than 2.5 microns in diameter (PM2.5) emissions from the individual emissions units shall each not exceed the following:

| Operation/Stack ID | Hourly PM and PM2.5 Emission Limit (pounds per hour) |
|---|--|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.13601 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.91562 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.02510 0.02510 0.02510 |
| Paste mixing system (EU 0300C) Stack 231 | 1.13783 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.02999 |
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 16.83672 total |
| Flash dry oven (PA025) Stack 249 | 0.13746 |
| Flash dry oven (PA026) Stack 250 | 0.13746 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00382 0.00382 0.00382 0.00382 |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193, and 194 | 0.00382 0.00382 0.00382 0.00382 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237, and 238 | 0.00382 0.00382 0.00382 0.00382 |
| Bone Dry Ovens (BDO-7 through BDO-10) Stacks 23, 24, 165, and 25 | 0.00382 0.00382 0.00382 0.00382 |
| 3PO-plate processing (EU 0700B) Stack 152 | 2.92575 |
| 3PO-plate processing (EU 0700C) Stack 151 | 2.92575 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 1.64175 total |
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 6.19747 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.98614 |

| Operation/Stack ID | Hourly PM and PM2.5 Emission Limit (pounds per hour) |
|---|--|
| 3PO-L plate assembly (EU 0800B) Stack 166 | 2.32195 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 1.47853 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 2.73170 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.00695 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.88917 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.04220 |
| Tank dry formation (EU 0900A) Stack 178 | 11.34000 |
| Central Vacuum (Maint2000A) Stack 113 | 0.18729 |
| Central Vacuum (Maint2000B) Stack 129 | 0.18729 |
| Central Vacuum (Maint2000C) Stack 130 | 0.18729 |
| Central Vacuum (Maint2000D) Stack 131 | 0.18729 |
| Central Vacuum (Maint2000E) Stack 224 | 0.18729 |
| Total | 53.89 |

Compliance with these limits, combined with the potential PM and PM2.5 emissions from all other emission units at this source, shall limit the source-wide total potential to emit PM and PM2.5 to less than 250 tons per 12 consecutive month period, each, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.1.8 PM10 Limitations [326 IAC 2-8-4][326 IAC 2-2]

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, particulate matter less than 10 microns in diameter (PM10) emissions from the individual emissions units shall not exceed the following:

| Operation/Stack ID | Hourly PM ₁₀ Emission Limit (pounds per hour) |
|--|--|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.05440 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.36625 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.01004 0.01004 0.01004 |
| Paste mixing system (EU 0300C) Stack 231 | 0.45513 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.01200 |

| Operation/Stack ID | Hourly PM ₁₀ Emission Limit (pounds per hour) |
|--|--|
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 6.73469 total |
| Flash dry oven (PA025) Stack 249 | 0.05498 |
| Flash dry oven (PA026) Stack 250 | 0.05498 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00153 0.00153 0.00153 0.00153 |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193, and 194 | 0.00153 0.00153 0.00153 0.00153 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237, and 238 | 0.00153 0.00153 0.00153 0.00153 |
| Bone Dry Ovens (BDO-7 through BDO-10) Stacks 23, 24, 165, and 25 | 0.00153 0.00153 0.00153 0.00153 |
| 3PO-plate processing (EU 0700B) Stack 152 | 1.17030 |
| 3PO-plate processing (EU 0700C) Stack 151 | 1.17030 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 0.65670 total |
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 2.47899 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.39446 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 0.92878 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 0.59141 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 1.09268 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.00278 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.35567 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.01688 |
| Tank dry formation (EU 0900A) Stack 178 | 4.53600 |
| Central Vacuum (Maint2000A) Stack 113 | 0.07491 |

| Operation/Stack ID | Hourly PM ₁₀ Emission Limit (pounds per hour) |
|--|--|
| Central Vacuum (Maint2000B) Stack 129 | 0.07491 |
| Central Vacuum (Maint2000C) Stack 130 | 0.07491 |
| Central Vacuum (Maint2000D) Stack 131 | 0.07491 |
| Central Vacuum (Maint2000E) Stack 224 | 0.07491 |
| Total | 21.56 |

Compliance with these limits, combined with the potential PM10 emissions from all other emission units at this source, shall limit the source-wide total potential to emit PM10 to less than 100 tons per 12 consecutive month period and will render 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.9 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.

Compliance Determination Requirements

D.1.10 Testing Requirements [326 IAC 2-8-5(a)(1) and (4)][326 IAC 2-1.1-11]

- (a) Within two and one-half (2.5) years from the date of the most recent valid compliance demonstration of a group, the Permittee shall perform lead and opacity testing of one (1) of the stacks in each group as specified in the following table utilizing methods as approved by the Commissioner to demonstrate compliance with Condition D.1.5(b) and the NSPS Subpart KK requirements of Condition D.1.2. US EPA has approved an alternative stack testing parameter for only the Group 3 (EU 0300A and EU 0300Bn) lead oxide storage silos. The stack sampling time for the Group 3 test is decreased to fifteen (15) minutes. The Permittee shall perform two (2) tests and the results of these two (2) tests shall be averaged. These lead and opacity performance tests shall be repeated on a different stack for groups with multiple stacks at least once every two and one-half (2.5) years from the date of the last valid compliance demonstration of the group. For groups with multiple stacks, testing of any individual stack shall not be repeated until each stack within the group has been tested. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

| EMISSION UNITS GROUPED BY LIKE PROCESSES AND COLLECTION EQUIPMENT | | |
|--|----------------------------|--------------|
| Group | Emission Unit | Stack |
| 1 | EU 0100A and 0100B | 195 |
| | EU 0200A | 196 |
| 2 | EU 0200B | 226 |
| | EU 0200C | 227 |
| | EU 0200D | 228 |
| | EU 0300D | 159 |
| 3 | EU 0300A | Bin Vent 232 |
| | EU 0300Bn | Bin Vent 233 |
| 4 | EU 0300C | 231 |
| | EU 0300E, PA027, and PA028 | 230 |

| EMISSION UNITS GROUPED BY LIKE PROCESSES AND COLLECTION EQUIPMENT | | |
|--|-------------------------------|-------|
| Group | Emission Unit | Stack |
| 5 | PA025 | 249 |
| | PA026 | 250 |
| | EU 0300F | 26 |
| | EU 0300G | 27 |
| | EU 0300H | 28 |
| | EU 0300I | 29 |
| | EU 0300J | 179 |
| | EU 0300K | 180 |
| | EU 0300L | 193 |
| | EU 0300M | 194 |
| | EU 0500E | 234 |
| | EU 0500F | 235 |
| | EU 0500G | 237 |
| | EU 0500H | 238 |
| | BDO-7 | 23 |
| | BDO-8 | 24 |
| | BDO-9 | 165 |
| BDO-10 | 25 | |
| 6 | EU 0700F and 0800E | 247 |
| | EU 0700B | 152 |
| | EU 0700C | 151 |
| | EU 0800D and 0700E | 127 |
| 7 | MAINT2000A | 113 |
| | MAINT2000B | 129 |
| | MAINT2000C | 130 |
| | MAINT2000D | 131 |
| | MAINT2000E | 224 |
| 8 | EU 0800A | 140 |
| | EU 0800B | 166 |
| | EU 0800C | 142 |
| | EU 0800F | 167 |
| | EU 0800H | 141 |
| | EU 0800K | 244 |
| | LCT 1700 Battery Curing Ovens | 246 |

- (b) The Permittee is not required to test these facilities for PM and PM10 by this permit. However, IDEM may require compliance testing when necessary to determine if these facilities are in compliance. If testing is required by IDEM, compliance with the PM and PM10 limits specified in Conditions D.1.6, D.1.7, and D.1.8 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.11 Particulate Control

- (a) The particulate control devices shall be in operation at all times when any of the facilities listed in Section D.1 are in operation.

- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.1.12 Visible Emissions Notations

- (a) Daily visible emission notations of stack exhausts 195, 196, 226 - 228, 232, 233, 231, 230, 159, 249, 250, 26 - 29, 179, 180, 193, 194, 234, 235, 237, 238, 127, 247, 23, 24, 165, 25, 152, 151, 140, 166, 142, 188, 167, 141, 244, 113, 129, 130, 131, 224, and 246 exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee or contractor is a person who has worked or trained at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.13 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the pasting, three process, and Central Vac operations, at least once per day when the pasting, three process and Central Vac processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range specified in the following table or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

| Emission Unit | Stack/Vent ID | Pressure Drop (inches of water) |
|--------------------|---------------|---------------------------------|
| EU 0100A | 195 | 1 - 6 |
| EU 0200A | 196 | 1 - 6 |
| EU 0300A | 232 | 1 - 7 |
| EU 0300Bn | 233 | 1 - 7 |
| EU 0300D | 159 | 2 - 7 |
| EU 0700B | 152 | 2 - 7 |
| EU 0700C | 151 | 2 - 7 |
| EU 0700E and 0800D | 127 | 2 - 8 |
| EU 0700F and 0800E | 247 | 1 - 7 |

| Emission Unit | Stack/Vent ID | Pressure Drop (inches of water) |
|---------------|---------------|---------------------------------|
| EU 0800A | 140 | 1 - 6 |
| EU 0800B | 166 | 1 - 6 |
| EU 0800C | 142 | 5 - 11 |
| EU 0800F | 188 | 1 - 6 |
| EU 0800H | 141 | 2 - 6 and 2 - 6 |
| EU 0800K | 244 | 1 - 6 |
| MAINT2000A | 113 | 2 - 10 |
| MAINT2000B | 129 | 0.5 - 8 |
| MAINT2000C | 130 | 1 - 9 |
| MAINT2000D | 131 | 2 - 10 |
| MAINT2000E | 224 | 2 - 10 |

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

- (b) The Permittee shall record the pressure drop across the Tri Mer wet scrubbers (Stack 231) and the water flow rate and pressure drop across the Sly Manufacturing scrubber (Stack 230) at least once per day when the pasting and three process operations are in operation. When for any one reading, the pressure drop across a scrubber or a water flow rate of a scrubber is outside the normal range specified in the following table or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A water flow rate reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

| Emission Unit | Stack/Vent ID | Pressure Drop (inches of water) | Flow Rate (gallons per minute) |
|----------------------------|---------------|---------------------------------|--------------------------------|
| EU 0300C | 231 | 4 - 10 | Not Applicable |
| EU 0300E, PA027, and PA028 | 230 | 3 - 8 | 30 |

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.1.14 Baghouse Inspections

An inspection shall be performed semiannually of all bags controlling the battery manufacturing operation. All defective bags shall be replaced. A record shall be kept of the results of the inspection.

D.1.15 Scrubber Inspection

An inspection shall be performed semiannually of the scrubber. Defective scrubber part(s) shall be replaced. A record shall be kept of the results of the inspection.

D.1.16 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.1.17 Scrubber Failure Detection

In the event that a scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.18 Record Keeping Requirement

- (a) To document compliance with Condition D.1.5(a), the Permittee shall maintain daily records of the number lead batteries produced per day.
- (b) To document compliance with Condition D.1.12, the Permittee shall maintain a daily record of visible emission notations of Stacks 195, 196, 226 - 228, 232, 233, 231, 230, 159, 249, 250, 26 - 29, 179, 180, 193, 194, 234, 235, 237, 238, 127, 247, 23, 24, 165, 25, 152, 151, 140, 166, 142, 188, 167, 141, 244, 113, 129, 130, 131, 224, and 246 exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (c) To document compliance with Condition D.1.13(a), the Permittee shall maintain a daily record of the pressure drop across the baghouses associated with the grid casting, pasting, three process, and Central Vac operations. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (d) To document compliance with Condition D.1.13(b), the Permittee shall maintain a daily record of the pressure drop across each of the scrubbers (Tri Mer wet scrubbers and Sly Manufacturing scrubber). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).
- (e) To document compliance with Condition D.1.13(b), the Permittee shall maintain a daily record of the water flow rate of the Sly Manufacturing scrubber. The Permittee shall include in its daily record when a water flow rate reading is not taken and the reason for the lack of a water flow rate reading (e.g., the process did not operate that day).
- (f) To document compliance with Conditions D.1.14 and D.1.15, the Permittee shall maintain records of the results of the inspections required under Conditions D.1.14 and D.1.15.
- (g) All records shall be maintained in accordance with Section C - General Record Keeping

Requirements, of this permit.

D.1.19 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.5(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour consisting of various existing facilities rated at total of 54.36 million British thermal units per hour. Additional natural gas-fired combustion sources include:

Casting

- (1) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 163, rated at 0.690 million British thermal units per hour.
- (2) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 164, rated at 1.050 million British thermal units per hour.
- (3) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 236, rated at 0.340 million British thermal units per hour.

Pasting

- (4) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 239, rated at 0.340 million British thermal units per hour.

Plate Storage Area

- (6) One (1) natural gas-fired universal oven boiler, installed in December 2000, exhausting through Stack 225, rated at 0.340 million British thermal units per hour.
- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2][326 IAC 8-3-5]

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Limitations [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4(a) (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(d)), particulate emissions from all facilities used for indirect heating purposes which were existing and in operation after September 21, 1983, shall in no case exceed 0.6 pounds of particulate matter per million British thermal units heat input.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for each of the cold cleaning degreasers, the owner or operator shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;

- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.2.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

- (a) Pursuant 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaning degreasers:
 - (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

- (b) Pursuant 326 IAC 8-3-5(b), the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaning degreasers:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: C&D Technologies, Inc.
Source Address: 200 West Main Street, Attica, Indiana 47918
Mailing Address: P.O. Box 279, Attica, Indiana 47918-0279
FESOP Permit No.: F045-19413-00008

**This certification shall be included when submitting monitoring, testing reports/results
or other documents as required by this permit.**

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify) _____
- Report (specify) _____
- Notification (specify) _____
- Affidavit (specify) _____
- Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: C&D Technologies, Inc.
Source Address: 200 West Main Street, Attica, Indiana 47918
Mailing Address: P.O. Box 279, Attica, Indiana 47918-0279
FESOP Permit No.: F045-19413-00008

This form consists of 2 pages

Page 1 of 2

| |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16 |
|---|

If any of the following are not applicable, mark N/A

| |
|---|
| Facility/Equipment/Operation: |
| Control Equipment: |
| Permit Condition or Operation Limitation in Permit: |
| Description of the Emergency: |
| Describe the cause of the Emergency: |

If any of the following are not applicable, mark N/A

Page 2 of 2

| |
|---|
| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? Y N Describe: |
| Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other: |
| Estimated amount of pollutant(s) emitted during emergency: |
| Describe the steps taken to mitigate the problem: |
| Describe the corrective actions/response steps taken: |
| Describe the measures taken to minimize emissions: |
| If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value: |

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Production Report
(Submit Report Quarterly)

Source Name: C&D Technologies, Inc.
Source Address: 200 West Main Street, Attica, Indiana 47918
Mailing Address: P.O. Box 279, Attica, Indiana 47918-0279
FESOP Permit No.: F045-19413-00008
Facility: Entire Source
Parameter: Lead Battery Production
Limit: The production of lead batteries shall be less than 2,000 batteries per day, with compliance determined at the end of each day.

Month: _____ Year: _____

| Day | Lead Batteries Produced per day | Day | Lead Batteries Produced per day |
|-----|---------------------------------|-----|---------------------------------|
| 1 | | 17 | |
| 2 | | 18 | |
| 3 | | 19 | |
| 4 | | 20 | |
| 5 | | 21 | |
| 6 | | 22 | |
| 7 | | 23 | |
| 8 | | 24 | |
| 9 | | 25 | |
| 10 | | 26 | |
| 11 | | 27 | |
| 12 | | 28 | |
| 13 | | 29 | |
| 14 | | 30 | |
| 15 | | 31 | |
| 16 | | | |

- No deviation occurred in this month.
- Deviation/s occurred in this month.
Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: C&D Technologies, Inc.
Source Address: 200 West Main Street, Attica, Indiana 47918
Mailing Address: P.O. Box 279, Attica, Indiana 47918-0279
FESOP Permit No.: F045-19413-00008

Months: _____ to _____ Year: _____

Page 1 of 2

| | |
|---|--------------------------------------|
| <p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p> | |
| <p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p> | |
| <p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p> | |
| <p>Permit Requirement (specify permit condition #)</p> | |
| <p>Date of Deviation:</p> | <p>Duration of Deviation:</p> |
| <p>Number of Deviations:</p> | |
| <p>Probable Cause of Deviation:</p> | |
| <p>Response Steps Taken:</p> | |
| <p>Permit Requirement (specify permit condition #)</p> | |
| <p>Date of Deviation:</p> | <p>Duration of Deviation:</p> |
| <p>Number of Deviations:</p> | |
| <p>Probable Cause of Deviation:</p> | |
| <p>Response Steps Taken:</p> | |

| | |
|--|-------------------------------|
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |
| Permit Requirement (specify permit condition #) | |
| Date of Deviation: | Duration of Deviation: |
| Number of Deviations: | |
| Probable Cause of Deviation: | |
| Response Steps Taken: | |

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

ATTACHMENT A

FUGITIVE DUST CONTROL PLAN

**C&D Technologies, Inc.
Attica Facility
200 West Main Street, Attica, Indiana 47918**

Revised October 2008

Jim Dodson
Environmental Administrator

I. FUGITIVE DUST CONTROL PROGRAM:

C&D has two (2) active, inside bulk storage tanks for lead oxide and one that hasn't been used in years. All other lead oxide bearing material shall also be stored inside the plant. The inactive oxide bulk storage tank has a Flex-Kleen Model 84 BVBS-16 dust collector on top of the tank, and the two (2) newer oxide bulk storage tanks have Premier Pneumatics bin vents, Model #F15214 – 118, with sixteen (16) Gortex bags each.

The oxide is unloaded into the tanks pneumatically via semi-trailer bulk tank. Both Positive & Negative Oxide is brought in from an outside supplier, and is loaded into their respective silos. In the future, this oxide may be loaded into the bulk tank by an air pump located near the bulk storage tanks. Also, the two (2) lead oxide bulk storage tanks are equipped with load cells with an emergency overflow alarm that will measure the weight of the contents to help assure the tanks will not be overloaded. Plant personnel check the silos before ordering oxide to ensure they can accept the full contents of lead oxide deliveries. See Form "Lead Oxide Unloading Inspection Log". Each task completed needs initialed by the C&D employee or truck driver who oversees it's completion. As applicable, C&D employees responsible for oversight of these unloading tasks will be trained in this procedure. C&D will, also, forward this procedure and log to the trucking concerns with instructions that each driver be trained in their responsibilities including notification for spills, initialing their completed tasks on the log, etc.

If cleanup is required, the plant central vacuum system and/or the plant Goodway wet/dry vacuum (equipped with H.E.P.A. filters) will be utilized. If material is too large to be vacuumed, sweeping and compound shoveling shall be used only to pick up the larger debris.

Upon Supervisor notification of a spill to the Plant Environmental Administrator, immediate clean up shall commence, with the Environmental Administrator and/or his/her designee supervising the clean up and disposal. The Environmental Administrator shall notify the proper Local and State authorities as required.

SPILL RESPONSE & CLEAN UP PROCEDURES:

The clean up procedures include, but are not limited to the following:

If the spill occurs outside:

1. Immediately stop all traffic in, and around, the contaminated area.
2. Utilize material out of metal spill response box near the oxide unloading area, which contains the following material for use in responding to an oxide spill.
 - a. 2 rolls of plastic (12'x50'). This will allow for coverage of the contaminated area in case of a breeze or while waiting for an appropriate number of personnel to gather.
 - b. 10 disposable respirators. For personnel while clean up activities are in progress.
 - c. 1 shovel. For picking up oxide and any visibly contaminated soil.
 - d. 10 sand bags. For holding down plastic.
 - e. 5 bags Zorb-All. For holding down the plastic or soaking up puddles of oxide contaminated water.
 - f. Drain plug for plugging a drain in case of a spill during a rainy day.

If the spill occurs inside the enclosure:

1. Immediately shutoff truck and pumping into silo AND CLOSE NORTH DOOR! (This will stop the spread of oxide outside the building and to other areas in the plant).
2. Use Goodway wet/dry vacuum equipped with H.E.P.A. filters to clean up any wet oxide, or on any paved areas allowing for the wash down of pavement to a diked area and the vacuuming up of the lead contaminated water. Do this in a manner so as not to spread the lead contaminated water to the manhole located inside this enclosure. The captured water that is lead contaminated is at the present time (for plant process water), and always will be (in case of spill) treated and

filtered through the plant on-site wastewater treatment facility. All plant personnel shall be trained on the Stormwater Pollution Prevention Plan on a yearly basis, as applicable to their responsibilities at the facility.

LEAD OXIDE UNLOADING PROCEDURE

The following procedure shall be used during the unloading of lead oxide (PbO) at the C&D Technologies Attica facility. This procedure shall insure the safety of those involved in unloading lead oxide and prevent spills of this material to the environment. Lead oxide is a toxic material and must be given proper respect in its handling.

Any deviation from this procedure must be approved by the Plant Environmental Administrator prior to implementing the change. Unapproved deviations shall result in disciplinary action, notification of the trucking concern involved, and other actions deemed necessary to insure there are no repeated occurrences.

Procedure for Lead Oxide Unloading

- A. The Truck Driver shall:
 - 1. Back truck in so that exhaust from the truck is close to the overhead exhaust ventilation hoses.
 - 2. Turn the ventilation on the overhead exhaust ventilation hoses and open dampers.
- B. A designated C&D Management Employee shall establish when unloading may commence:
 - 1. Insure that the bulk storage tank is sufficiently empty, so it can accept the full contents of the truck. (Pasting Supervisor)
 - 2. Unlock the lead oxide loading line. (Quality Tech)
 - 3. Notify the driver that the unloading may commence. (Quality Tech)
 - 4. Fill out the "Lead Oxide Unloading Inspection Log." (Quality Tech & Truck driver)
 - 5. Shall instruct the truck driver of the overfill alarm and procedures to follow in case of alarm situation. (Quality Tech)
- C. The Truck Driver shall prepare for oxide unloading:
 - 1. Insure that a respirator is donned during unloading in case of a leak.
 - 2. Hearing protection shall be worn at this stage until truck's unloading pump is turned off. In the event that the driver does not have his/her own earplugs, earplugs located in a dispenser within the north alleyway enclosure shall be used.
 - 3. Gloves and safety glasses shall be worn throughout the hook-up and unloading processes.
 - 4. Turn the bin vent fan on.
 - 5. Connect lead oxide hose(s) between truck and unlocked lead oxide loading pipe, insuring that no kinks in hose exist and that couplings are tight. (Connection of multiple hoses may be necessary to insure that the truck is located where truck exhaust ventilation can be properly used.)
 - 6. Begin the unloading operation.
- D. The Truck Driver shall continuously monitor the oxide unloading:
 - 1. Stay with the truck until the unloading procedure is complete.
 - 2. Monitor gauges on truck to insure working pressures are not exceeded.
 - 3. Monitor exhaust from the bin vents for visible emissions.
 - 4. In the case of emergency shutdown, the driver shall notify a C&D Management Employee, explaining the nature of the emergency.
- E. The Truck Driver shall complete the oxide unloading procedure:
 - 1. Allow sufficient air to pass through the lines after unloading to insure complete evacuation of lead oxide from the lines.
 - 2. Unhook the lead oxide hose(s) from the truck and return hoses to platform next to lead oxide silo.

3. Place oxide fill cap on pipe end and lock with padlock provided.
 4. Vacuum any spilled lead oxide, including the floor, the outside of the truck, and the hoses and pipes.
 5. Gloves shall be placed within the hazardous waste drum located within the north alleyway enclosure, and the lid to the hazardous waste drum shall be replaced on the top of the drum.
 6. Vacuum any lead oxide off of hair and clothes including bottom of shoes.
 7. Wash the tires of the truck with, as provided, insuring that water used is not excessive.
 8. Shall notify a C&D Quality Tech that delivery is complete.
- F. C&D Quality Tech shall:
1. Insure that the floor, outside of truck, and unloading hoses and pipes are free of lead oxide dust.
 2. Insure that the tires of the truck have been thoroughly washed.
 3. Insure that the oxide fill cap has been secured onto the pipe end. Release the Truck Driver to leave the premises.
 4. Complete and initial the "Lead Oxide Unloading Inspection Log."
 5. Provide the completed "Lead Oxide Unloading Inspection Log" to the Environmental Administrator.

ATTACHMENT B

Title 40: Protection of Environment PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart KK—Standards of Performance for Lead-Acid Battery Manufacturing Plants

Source: 47 FR 16573, Apr. 16, 1982, unless otherwise noted.

§ 60.370 Applicability and designation of affected facility.

(a) The provisions of this subpart are applicable to the affected facilities listed in paragraph (b) of this section at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).

(b) The provisions of this subpart are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:

- (1) Grid casting facility.
- (2) Paste mixing facility.
- (3) Three-process operation facility.
- (4) Lead oxide manufacturing facility.
- (5) Lead reclamation facility.
- (6) Other lead-emitting operations.

(c) Any facility under paragraph (b) of this section the construction or modification of which is commenced after January 14, 1980, is subject to the requirements of this subpart.

§ 60.371 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) *Grid casting facility* means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.

(b) *Lead-acid battery manufacturing plant* means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.

(c) *Lead oxide manufacturing facility* means a facility that produces lead oxide from lead, including product recovery.

(d) *Lead reclamation facility* means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under subpart L of this part.

(e) *Other lead-emitting operation* means any lead-acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under subpart L of this part.

(f) *Paste mixing facility* means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

(g) *Three-process operation facility* means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.

§ 60.372 Standards for lead.

(a) On and after the date on which the performance test required to be conducted by §60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere:

(1) From any grid casting facility any gases that contain lead in excess of 0.40 milligram of lead per dry standard cubic meter of exhaust (0.000175 gr/dscf).

(2) From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

(3) From any three-process operation facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

(4) From any lead oxide manufacturing facility any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).

(5) From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00197 gr/dscf).

(6) From any other lead-emitting operation any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.000437 gr/dscf).

(7) From any affected facility other than a lead reclamation facility any gases with greater than 0 percent opacity (measured according to Method 9 and rounded to the nearest whole percentage).

(8) From any lead reclamation facility any gases with greater than 5 percent opacity (measured according to Method 9 and rounded to the nearest whole percentage).

(b) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities shall be determined as follows:

$$S_e = \sum_{a=1}^N S_a (Q_{sd_a} / Q_{sd_T})$$

Where:

S_e is the equivalent standard for the total exhaust stream.

S_a is the actual standard for each exhaust stream ducted to the control device.

N is the total number of exhaust streams ducted to the control device.

Q_{sda} is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device.

Q_{sdT} is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device.

[47 FR 16573, Apr. 16, 1982, as amended at 65 FR 61760, Oct. 17, 2000]

§ 60.373 Monitoring of emissions and operations.

The owner or operator of any lead-acid battery manufacturing facility subject to the provisions of this subpart and controlled by a scrubbing system(s) shall install, calibrate, maintain, and operate a monitoring device(s) that measures and records the pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device shall have an accuracy of ± 5 percent over its operating range.

§ 60.374 Test methods and procedures.

(a) In conducting the performance tests required in §60.8, the owner or operator shall use as reference methods and procedures the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the lead standards in §60.372, except §60.372(a)(4), as follows:

(1) Method 12 shall be used to determine the lead concentration and, if applicable, the volumetric flow rate (Q_{sda}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf).

(2) When different operations in a three-process operation facility are ducted to separate control devices, the lead emission concentration (C) from the facility shall be determined as follows:

$$C = \left[\sum_{a=1}^N (C_a Q_{sda}) \right] / \sum_{a=1}^N Q_{sda}$$

where:

C = concentration of lead emissions for the entire facility, mg/dscm (gr/dscf).

C_a = concentration of lead emissions from facility "a", mg/dscm (gr/dscf).

Q_{sda} = volumetric flow rate of effluent gas from facility "a", dscm/hr (dscf/hr).

N = total number of control devices to which separate operations in the facility are ducted.

(3) Method 9 and the procedures in §60.11 shall be used to determine opacity. The opacity numbers shall be rounded off to the nearest whole percentage.

(c) The owner or operator shall determine compliance with the lead standard in §60.372(a)(4) as follows:

(1) The emission rate (E) from lead oxide manufacturing facility shall be computed for each run using the following equation:

$$E = \left(\sum_{i=1}^M C_{P_{bi}} Q_{sdi} \right) / (PK)$$

where:

E=emission rate of lead, mg/kg (lb/ton) of lead charged.

$C_{P_{bi}}$ =concentration of lead from emission point "i," mg/dscm (gr/dscf).

Q_{sdi} =volumetric flow rate of effluent gas from emission point "i," dscm/hr (sdcf/hr).

M=number of emission points in the affected facility.

P=lead feed rate to the facility, kg/hr (ton/hr).

K=conversion factor, 1.0 mg/mg (7000 gr/lb).

(2) Method 12 shall be used to determine the lead concentration ($C_{P_{bi}}$) and the volumetric flow rate (Q_{sdi}) of the effluent gas. The sampling time and sample volume for each run shall be at least 60 minutes and 0.85 dscm (30 dscf).

(3) The average lead feed rate (P) shall be determined for each run using the following equation:

$$P = N W / \Theta$$

where:

N=number of lead pigs (ingots) charged.

W=average mass of a pig, kg (ton).

Θ =duration of run, hr.

[54 FR 6675, Feb. 14, 1989, as amended at 65 FR 61760, Oct. 17, 2000]

ATTACHMENT C

Title 40: Protection of Environment PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart P P P P P P—National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources

Source: 72 FR 38913, July 16, 2007, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11421 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a lead acid battery manufacturing plant that is an area source of hazardous air pollutants (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each lead acid battery manufacturing plant. The affected source includes all grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and any other lead-emitting operation that is associated with the lead acid battery manufacturing plant.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source on or before April 4, 2007.

(2) An affected source is new if you commenced construction or reconstruction of the affected source after April 4, 2007.

(c) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act (CAA).

(d) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

§ 63.11422 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart by no later than July 16, 2008.

(b) If you startup a new affected source on or before July 16, 2007, you must achieve compliance with the applicable provisions in this subpart not later than July 16, 2007.

(c) If you startup a new affected source after July 16, 2007, you must achieve compliance with the provisions in this subpart upon startup of your affected source.

Standards and Compliance Requirements

§ 63.11423 What are the standards and compliance requirements for new and existing sources?

(a) You must meet all the standards for lead in 40 CFR 60.372.

(b) You must meet the monitoring requirements in paragraphs (b)(1) and (2) of this section.

(1) For any emissions point controlled by a scrubbing system, you must meet the requirements in 40 CFR 60.373.

(2) For any emissions point controlled by a fabric filter, you must meet the requirements of paragraph (b)(2)(i) of this section and either paragraph (b)(2)(ii) or (iii) of this section. Fabric filters equipped with a high efficiency particulate air (HEPA) filter or other secondary filter are allowed to monitor less frequently, as specified in paragraph (b)(2)(iv) of this section.

(i) You must perform semiannual inspections and maintenance to ensure proper performance of each fabric filter. This includes inspection of structural and filter integrity. You must record the results of these inspections.

(ii) You must install, maintain, and operate a pressure drop monitoring device to measure the differential pressure drop across the fabric filter during all times when the process is operating. The pressure drop shall be recorded at least once per day. If a pressure drop is observed outside of the normal operational ranges, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit a monitoring system performance report in accordance with §63.10(e)(3).

(iii) You must conduct a visible emissions observation at least once per day to verify that no visible emissions are occurring at the discharge point to the atmosphere from any emissions source subject to the requirements of paragraph (a) of this section. If visible emissions are detected, you must record the incident and conduct an opacity measurement in accordance with 40 CFR 60.374(b)(3). You must record the results of each opacity measurement. If the measurement exceeds the applicable opacity standard in 40 CFR 60.372(a)(7) or (8), you must submit this information in an excess emissions report required under §63.10(e)(3).

(iv) Fabric filters equipped with a HEPA filter or other secondary filter are allowed to monitor less frequently, as specified in paragraph (b)(2)(iv)(A) or (B) of this section.

(A) If you are using a pressure drop monitoring device to measure the differential pressure drop across the fabric filter in accordance with paragraph (b)(2)(ii) of this section, you must record the pressure drop at least once per week. If a pressure drop is observed outside of the normal operational ranges, you must record the incident and take immediate corrective actions. You must also record the corrective actions taken. You must submit a monitoring system performance report in accordance with §63.10(e)(3).

(B) If you are conducting visible emissions observations in accordance with paragraph (b)(2)(iii) of this section, you must conduct such observations at least once per week and record the results in accordance with paragraph (b)(2)(iii) of this section. If visible emissions are detected, you must record the incident and conduct an opacity measurement in accordance with 40 CFR 60.374(b)(3). You must record the results of each opacity measurement. If the measurement exceeds the applicable opacity standard in 40 CFR 60.372(a)(7) or (8), you must submit this information in an excess emissions report required under §63.10(e)(3).

(c) You must meet the testing requirements in 40 CFR 60.374.

(1) Existing sources are not required to conduct a performance test if a prior performance test was conducted using the same methods specified in 40 CFR 60.374 and either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with this subpart despite process changes.

(2) Sources without a prior performance test, as described in paragraph (c)(1) of this section, must conduct a performance test using the methods specified in 40 CFR 60.374 by 180 days after the compliance date.

[72 FR 38913, July 16, 2007, as amended at 73 FR 15929, Mar. 26, 2008]

§ 63.11424 [Reserved]

Other Requirements and Information

§ 63.11425 What General Provisions apply to this subpart?

(a) The provisions in 40 CFR part 63, subpart A, that are applicable to this subpart are specified in Table 1 to this subpart.

(b) For existing sources, the initial notification required by §63.9(b) must be submitted not later than November 13, 2007.

(c) For existing sources, the initial notification of compliance required by §63.9(h) must be submitted not later than March 13, 2009.

[72 FR 38913, July 16, 2007, as amended at 73 FR 15929, Mar. 26, 2008]

§ 63.11426 What definitions apply to this subpart?

The terms used in this subpart are defined in the CAA; 40 CFR 60.371; 40 CFR 60.2 for terms used in the applicable provisions of 40 CFR part 60, subpart A; and §63.2 for terms used in the applicable provisions of 40 CFR part 63, subpart A.

[72 FR 38913, July 16, 2007, as amended at 73 FR 15929, Mar. 26, 2008]

§ 63.11427 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency pursuant to 40 CFR part 63, subpart E, then that Agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of an alternative non-opacity emissions standard under §63.6(g).

(2) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in §63.90.

(3) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” is defined in §63.90.

(4) Approval of a major change to recordkeeping/reporting under §63.10(f). A “major change to recordkeeping/reporting” is defined in §63.90.

[72 FR 38913, July 16, 2007, as amended at 73 FR 15929, Mar. 26, 2008]

Table 1 to Subpart P P P P P P of Part 63—Applicability of General Provisions to Subpart P P P P P P

As required in §63.11425, you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table.

| Citation | Subject | Applies to Subpart P P P P P P? | Explanation |
|------------------------------------|--|---------------------------------|---|
| 63.1 | Applicability | Yes | |
| 63.2 | Definitions | Yes | |
| 63.3 | Units and Abbreviations | | |
| 63.4 | Prohibited Activities and Circumvention | Yes | |
| 63.5 | Preconstruction Review and Notification Requirements | No | |
| 63.6(a)–(d), (e)(1), (f)–(j) | Compliance with Standards and Maintenance Requirements | Yes | |
| 63.6(e)(3) | | No | Subpart P P P P P P does not require a startup, shutdown, and malfunction plan. |
| 63.7 | Performance Testing Requirements | Yes | |
| 63.8 | Monitoring Requirements | Yes | |
| 63.9 | Notification Requirements | Yes | |
| 63.10(a)–(c), (d)(1)–(4), (e), (f) | Recordkeeping and Reporting Requirements | Yes | |

| Citation | Subject | Applies to Subpart P P P P P P? | Explanation |
|--|---|---------------------------------|---|
| 63.10(d)(5) | | No | Subpart P P P P P P does not require a startup, shutdown, and malfunction plan. |
| 63.11 | Control Device Requirements | No | Subpart P P P P P P does not require flares. |
| 63.12 | State Authorities and Delegations | Yes. | |
| 63.13 | Addresses | Yes | |
| 63.14 | Incorporations by Reference | Yes | |
| 63.15 | Availability of Information and Confidentiality | Yes | |
| 63.16 | Performance Track Provisions | Yes | |
| 63.1(a)(5), (a)(7)–(9), (b)(2), (c)(3), (d), 63.6(b)(6), (c)(3), (c)(4), (d), (e)(2), (e)(3)(ii), (h)(3), (h)(5)(iv), 63.8(a)(3), 63.9(b)(3), (h)(4), 63.10(c)(2)–(c)(4), (c)(9) | Reserved | No | |

[72 FR 38913, July 16, 2007, as amended at 73 FR 15929, Mar. 26, 2008]

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

Addendum to the Technical Support Document (ATSD for a
Federally Enforceable State Operating Permit (FESOP) Renewal

Source Background and Description

| | |
|----------------------------|--|
| Source Name: | C&D Technologies, Inc. |
| Source Location: | 200 West Main Street, Attica, Indiana 47918 |
| County: | Fountain |
| SIC Code: | 3691 |
| Permit Renewal No.: | F045-19413-00008 |
| Permit Reviewer: | Nathan Bell |

On February, 16, 2009, the Office of Air Quality (OAQ) had a notice published in The Fountain County Neighbor newspaper, Attica, Indiana, stating that C&D Technologies, Inc., had applied for a FESOP Renewal. The notice also stated that the OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

1. Several of IDEM's branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the permit. References to "Permit Administration and Development Section" and the "Permits Branch" have been changed to "Permit Administration and Support Section". References to "Asbestos Section", "Compliance Data Section", "Air Compliance Section", and "Compliance Branch" have been changed to "Compliance and Enforcement Branch". The permit has been revised as follows:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

| |
|---------------------|
| IDEM Contact |
|---------------------|

- (a) Questions regarding this proposed FESOP Renewal can be directed to Nathan Bell at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-5670 or toll free at 1-800-451-6027 extension (35670).
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

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

**Technical Support Document (TSD) for a
Federally Enforceable State Operating Permit (FESOP) Renewal**

Source Background and Description

| | |
|----------------------------|--|
| Source Name: | C&D Technologies, Inc. |
| Source Location: | 200 West Main Street, Attica, Indiana 47918 |
| County: | Fountain |
| SIC Code: | 3691 |
| Permit Renewal No.: | F045-19413-00008 |
| Permit Reviewer: | Nathan Bell |

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from C&D Technologies, Inc., relating to the operation of a stationary custom industrial battery manufacturing source.

History

C&D Technologies, Inc., was issued a FESOP No. 045-11285-00008 on May 26, 2000. On July 26, 2004, C&D Technologies, Inc., submitted an application to IDEM OAQ requesting to renew its operating permit.

Permitted Emission Units and Pollution Control Equipment

This stationary source consists of the following permitted emission units and pollution control equipment:

Casting

- (a) One (1) small parts casting operation, known as EU 0100A, installed in 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 1,446 pounds of lead pigs per hour.
- (b) One (1) small parts flaming operation, known as EU 0100B, installed in 1977, last modified October 13, 1977, equipped with a Farr 48D cartridge dust collector, exhausting through Stack 195, capacity: 488 pounds of small parts per hour.
- (c) One (1) grid casting operation, known as EU 0200A, installed in 1977, equipped with a Farr 60LL cartridge dust collector, exhausting through Stack 196, capacity: 5,197 pounds of lead pigs per hour.
- (d) Three (3) natural gas-fired grid curing ovens, known as EU 0200B through EU 0200D, installed in 2000, exhausting through Stacks 226 - 228, respectively, rated at 0.200 million British thermal units per hour each, total process capacity: 6,100 pounds of casted lead grid plates per hour.

Pasting

- (e) Pneumatic conveying of positive lead oxide from trucks to a storage silo, known as EU 0300A, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 232, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.

- (f) One (1) negative lead oxide storage silo, known as EU 0300B, installed in 1983, last modified June 10, 1983, equipped with a Flex-Kleen Model 84 dust collector, exhausting to the indoors through bin vent 85, with a maximum silo loading rate of 45,000 pounds of negative lead oxide per hour. Storage silo EU 0300B is not connected to the pneumatic conveyance system and is not in use.
- (g) Pneumatic conveying of negative lead oxide from trucks to a storage silo, known as EU 0300Bn, installed in 2000, equipped with an integral Pneumatics Bin Vent filter, exhausting to the indoors through bin vent 233, with a maximum silo loading rate of 45,000 pounds of positive lead oxide per hour.
- (h) Pneumatic conveying of positive lead oxide from storage silo EU 0300A to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of positive lead oxide per hour.
- (i) Pneumatic conveying of negative lead oxide from storage silo EU 0300Bn to the paste mixing system EU 0300C, with emissions controlled by one of two (2) Tri Mer wet scrubbers that exhaust through Stack 231, with a maximum silo unloading rate of 6,000 pounds of negative lead oxide per hour.
- (j) One (1) paste mixing system, known as EU 0300C, installed in 2000, consisting of two (2) weigh hoppers and two (2) mixing tubs, with emissions controlled by two (2) Tri Mer wet scrubbers that exhaust through Stack 231, capacity: 6,268 pounds of negative and positive lead oxide, expander, and dilute sulfuric acid per hour.
- (k) One (1) expander manufacturing operation, known as EU 0300D, installed in 1983, equipped with Farr Model 24 LS dust collector, exhausting through Stack 159, capacity: 312 pounds of lead oxide, carbon black, barytes, and barium sulfate per hour.
- (l) One (1) grid pasting system, known as EU 0300E, installed in 2000, equipped with a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.
- (m) Four (4) natural gas-fired humidity ovens, known as EU 0300 F, G, H and I, installed prior to 1999, exhausting through Stacks 26, 27, 28 and 29, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
- (n) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0300 J, K, L and M, installed prior to 1999, exhausting through Stacks 179, 180, 193 and 194, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.
- (o) Four (4) natural gas-fired OSI universal curing ovens, known as EU 0500E through EU 0500H, installed in 2000, exhausting through Stacks 234, 235, 237 and 238, respectively, rated at 0.840 million British thermal units per hour each, total process capacity: 2,456 pounds of lead plates per hour.
- (p) Four (4) natural gas-fired bone dry curing ovens, known as BDO-7 through BDO-10, installed prior to 1999, exhausting through Stacks 23, 24, 165 and 25, respectively, rated at 0.050 million British thermal units per hour each, total process capacity: 2,012 pounds of lead plates per hour.

Three Process Operation

- (q) One (1) 3PO-plate processing operation, known as EU 0700B, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 152, capacity: 2,914 pounds of plate frames per hour.
- (r) One (1) 3PO-plate processing operation, known as EU 0700C, installed in 1993, last modified October 26, 1993, equipped with an Krystal Kleen dust collector, exhausting through Stack 151, capacity: 2,914 pounds of plate frames per hour.
- (s) One (1) 3PO-plate processing operation, known as EU 0700E, installed in 1995, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 160 pounds of plate frames per hour.
- (t) One (1) 3PO-plate processing operation, known as EU 0700F, installed in 2001, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 8,473 pounds of plate frames per hour.
- (u) One (1) 3PO-L plate assembly operation, known as EU 0800A, installed March 30, 1984, equipped with an American air filter dust collector, exhausting through Stack 140, capacity: 1,444 pounds of cured plates and small parts per hour.
- (v) One (1) 3PO-L plate assembly operation, known as EU 0800B, installed in 1988, last modified April 8, 1988, equipped with an American air filter dust collector, exhausting through Stack 166, capacity: 2,165 pounds of positive and negative plates and small parts per hour.
- (w) One (1) 3PO-L plate assembly operation, known as EU 0800C, installed in 1984, last modified March 30, 1984, equipped with an OSI #10 dust collector, exhausting through Stack 142, capacity: 2,165 pounds of cured plates and small parts per hour.
- (x) One (1) 3PO-MP assembly, known as EU 0800D, installed in 1993, last modified January 1, 1993, equipped with a Torit dust collector, exhausting through Stack 127, capacity: 2,404 pounds of cured plates and small parts and cell covers per hour.
- (y) One (1) 3PO-JC/D assembly, known as EU 0800E, installed in 1994, last modified December 5, 1994, equipped with a Farr dust collector, exhausting through Stack 247, capacity: 174 pounds of cured plates and small parts and cell covers per hour.
- (z) One (1) 3PO-MCT assembly, known as EU 0800F, installed in 1999, equipped with a Farr 48D dust collector, exhausting through Stack 188, capacity: 3,813 pounds of lead plates and small parts and cell covers per hour.
- (aa) One (1) L-cell cover adhesive station, known as EU 0800G, installed in 1982, exhausting through Stack 167, capacity: 4,000 pounds of L-cells per hour.
- (bb) One (1) 3PO-L cell cover insert, known as EU 0800H, installed in 1984, last modified March 30, 1984, equipped with two (2) Torit dust collectors, exhausting through Stack 141, capacity: 600 pounds of assembled cells per hour.
- (cc) One (1) LCT 1700 Assembly with two jigs, known as EU 0800K, installed in December 2000, equipped with a Farr dust collector, exhausting through Stack 244, capacity: 1,302 pounds of plates and small parts and cell covers per hour.

Formation

- (dd) One (1) tank dry formation, known as EU 0900A, installed in 1990, last modified March 5, 1990, exhausting through Stack 178, capacity: 200 pounds of lead plates per hour.
- (ee) One (1) tank wet formation, known as EU 0900B, installed in 1990, capacity: 3,420 pounds of dry batteries per hour (fugitive).
- (ff) One (1) tank wet formation, known as EU 0900C, installed in 2000, capacity: 2,215 pounds of completed dry cells per hour (fugitive).

Central Vac

- (gg) One (1) 3 process central vacuum, known as Maint2000A, installed in 1980, exhausting through Stack 113.
- (hh) One (1) central vacuum #2, known as Maint2000B, installed October 6, 1980, exhausting through Stack 129.
- (ii) One (1) 3 process central vacuum, known as Maint2000C, installed in 1980, exhausting through Stack 130.
- (jj) One (1) 3 process central vacuum, known as Maint2000D, installed in 1980, exhausting through Stack 131.
- (kk) One (1) casting and pasting central vacuum, known as Maint2000E, installed November 19, 1999, exhausting through Stack 224.

Polyurethane Room

- (ll) One (1) polyurethane battery topping, known as Misc, installed in 1990, exhausting through Stack 160, using 30 gallons of a non-hazardous, non-chlorinated cleaning solvent per month.

Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, emission units (a) through (cc), and (gg) through (kk) listed above are considered affected facilities. [40 CFR 60, Subpart KK] [326 IAC 12] [40 CFR 63, Subpart P]

Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour consisting of various existing facilities rated at total of 54.36 million British thermal units per hour. Additional natural gas-fired combustion sources include:

Casting

- (1) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 163, rated at 0.690 million British thermal units per hour.
- (2) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 164, rated at 1.050 million British thermal units per hour.
- (3) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 236, rated at 0.340 million British thermal units per hour.

Pasting

- (4) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 239, rated at 0.340 million British thermal units per hour.

LCT Assembly

- (5) One (1) natural gas-fired rapid air heater, installed in December 2000, exhausting through Stack 245, rated at 1.650 million British thermal units per hour.

Plate Storage Area

- (6) One (1) natural gas-fired universal oven boiler, installed in December 2000, exhausting through Stack 225, rated at 0.340 million British thermal units per hour.

Charging

- (7) One (1) natural gas-fired rapid air heater, installed in December 2000, exhausting through Stack 243, rated at 0.750 million British thermal units per hour.
- (b) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2][326 IAC 8-3-5]
- (d) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (e) Cleaning - alcohol, mineral spirits, parts washer; gluing; paint; carbon steel welding. VOC less than 3 pounds per hour or 15 pounds per day, PM less than 5 pounds per hour or 25 pounds per day.
- (f) Three (3) electric LCT 1700 battery curing ovens, installed in 2000, exhausting through Stack 246, capacity: 1,302 pounds of plates and small parts and cell covers per hour. Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, these units are considered affected facilities. [40 CFR 60, Subpart KK] [326 IAC 12] [40 CFR 63, Subpart P]
- (g) Twelve (12) sulfuric acid solution storage tanks.

Emission Units and Pollution Control Equipment Removed From the Source

The following emission units have been removed from the source:

- (a) One (1) positive lead oxide bulk handling operation, known as EU 0300A, installed in 1983, last modified June 10, 1983, equipped with a Flex-Kleen Model 84 dust collector, exhausting internally through bin vent 232.

Emission Units and Pollution Control Equipment Not Constructed

The following emission units were never constructed and have been removed from the emission unit list:

- (a) One (1) natural gas-fired grid curing oven, known as EU 0200E, to be installed, exhausting through Stack 229, rated at 0.140 million British thermal units per hour.
- (b) One (1) pasting central vacuum, known as EU 2000F, to be installed, exhausting through Stack 242.

New Emission Units and Pollution Control Equipment

The source has requested approval to construct and operate the following new emission units and pollution control equipment:

Pasting

- (a) Two (2) natural gas-fired flash dry ovens, known as PA025 and PA026 approved for construction in 2009, exhausting through Stacks 249 and 250 respectively, rated at 1.6 million British thermal units per hour each, total process capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.

Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, the emission units listed above are considered affected facilities. [40 CFR 60, Subpart KK] [326 IAC 12] [40 CFR 63, Subpart P]

Three Process Operation

- (a) Two (2) enclosed pasted plate processing machines, known as PA027 and PA028, approved for construction in 2009, consisting of brushing and stacking of pasted lead plates, with excess lead oxide powder collected in trays and lead oxide air emissions controlled by a Sly Manufacturing scrubber, exhausting through Stack 230, capacity: 17,264 pounds of positive and negative lead paste and lead grids per hour.

Under 40 CFR 60, Subpart KK, and 40 CFR 63, Subpart P, the emission units listed above are considered affected facilities. [40 CFR 60, Subpart KK] [326 IAC 12] [40 CFR 63, Subpart P]

The new pasted plate processing machines (PA027 and PA028) will consist of computer controlled brushing of excess lead oxide paste from pasted grids within an enclosed system, with excess lead oxide powder collected in trays and lead oxide air emissions controlled by a Sly Manufacturing scrubber. The new machines (PA027 and PA028) will replace the previous plate brushing activities that were performed manually by hand at the individual plate processing stations (EU 0700B, C, E, and F). As a result, the lead oxide powder emissions that were previously associated with plate brushing activities at the individual plate processing stations (EU 0700B, C, E, and F) will no longer exist and will now occur at the new plate processing machines (PA027 and PA028). Therefore, the addition of the new machines will not result in an increase in the actual or potential source-wide emissions and qualifies as an administrative amendment pursuant to 326 IAC 2-8-10(a).

Existing Approvals

Since the issuance of the FESOP 045-11285-00008 on May 26, 2000, the source has constructed or has been operating under the following approvals as well:

- (a) First Significant Permit Revision No. 045-13609-00008, issued April 9, 2001
- (b) First Reopening No. 045-13044-00008, issued January 14, 2002
- (c) First Administrative Amendment No. 045-14821-00008, issued March 13, 2002
- (d) Second Administrative Amendment No. 045-15871-00008, issued May 6, 2002
- (e) Third Administrative Amendment No. 045-15910-00008, issued October 17, 2002
- (f) Fourth Administrative Amendment No. 045-16929-00008, issued January 30, 2003
- (g) Fifth Administrative Amendment No. 045-18039-00008, issued September 19, 2003

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been revised in this FESOP Renewal:

- (a) Overall Source Production Limit

The overall source production limit of 51,031,300 pounds of lead in batteries per twelve (12) consecutive month (contained in Condition C.2 of FESOP No. 045-11285-00008) was removed from the permit, since a production limitation is not necessary to limit the potential to emit particulate matter (PM) to less than two hundred fifty (250) tons per year and PM10 to less than one hundred (100) tons per year, and render 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable, respectively.

Based on the AP-42 Chapter 12.15 (1/95) emission factors for lead storage batteries, a worst case PM/Pb ratio can be calculated as follows: $(0.0926 \text{ lbs-PM/Beq}) / (0.0106 \text{ lbs-Pb/Beq}) = 8.74 \text{ lbs-PM/lbs-Pb}$ (for the 3-Process Operation (3PO), SCC 3-04-005-09). Based on this worst case PM/Pb ratio, if C&D Technologies complies with the NSPS Subpart KK lead (outlet grain loading) limitations, the lead emissions would be limited to approximately 4.3 tons of lead/year (based on the outlet flow rates provided), and the worst case PM/PM10 emissions would be limited to approximately $(4.3) * (8.74) = 37.58 \text{ tons/year}$. Therefore, compliance with the lead (outlet grain loading) limitations under 40 CFR 60, Subpart KK, New Source Performance Standards for Lead-Acid Battery Manufacturing Plants, shall also limit the potential to emit PM and PM10 to less than 250 and 100 tons per year, respectively.

Based on the production bottleneck that exists at the Formation process (see Formation Bottleneck section below), this lead-acid storage battery manufacturing plant has a maximum battery production rate of less than 2,000 batteries per day (see Appendix A, page 2, of this document for detailed production calculations).

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable, the permit will limit the potential to emit particulate matter (PM and PM2.5) to less than two hundred fifty (250) tons per year, PM10 to less than one hundred (100) tons per year, and lead to less than ten (10) tons per year, and will require a production limitation of less than 2,000 batteries per day.

(b) Stack Testing Emission Unit Groups

IDEM has agreed to reduce number of emission unit groups requiring lead and opacity testing from 18 groups to 8 groups, based on process and emission similarities among several of the emission units. In addition, emission units requiring testing have been updated based on emission units that have been removed from the source and emission units that have been or will be added to the source. For the updated table of emission unit grouping requiring stack testing, see the Compliance Requirements section of this TSD below.

(c) Fugitive Dust Control Plan

Condition C.7 of the permit was revised to reflect the most recent version of the Fugitive Dust Control Plan (revised October 2008) and is now included as Attachment A to the permit.

(d) Particulate and Lead Emission Limitations

The particulate (PM, PM10, and PM2.5) and lead emission limitations have been updated based on emission units that have been removed from the source and emission units that have been or will be added to the source. For the updated emission limitations, see the section below entitled, State Rule Applicability - Entire Source, subsections 326 IAC 2-2 Prevention of Significant Deterioration (PSD), 326 IAC 2-8-4 (FESOP), and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

Air Pollution Control Justification as an Integral Part of the Process

On December 3, 2008, C&D Technologies, Inc., submitted the following justification for considering the bin vent filters as an integral part of the lead oxide silo filling operation (pneumatic conveying of positive and negative lead oxide from trucks to a storage silos EU 0300A and EU 0300Bn):

The bin vent filters should be considered an integral part of the lead oxide silo filling operation, since there is significant economic benefit gained by collecting the lead oxide powder for use in the battery manufacturing operation. The costs and savings of installing and operating the bin vent filters are as follows:

- (1) the annualized initial capital costs (equipment and installation) of the two bin vent filters is \$16,050 per year. The analysis is as follows:

| | |
|---------------|---------------------------------------|
| Basic Unit | \$ 5738 |
| Motor | \$ 1365 |
| Access Ladder | \$ 275 |
| Safety Grid | \$ 390 |
| <u>Bags</u> | <u>\$ 257</u> |
| TOTAL | \$ 8025 per silo bent vent filter |
| TOTAL (X2) | \$16,050 for 2 silo bent vent filters |

- (2) the annualized maintenance, repair, and operational (MRO) costs of the two bin vent filters is \$2,244 per year. The analysis is as follows:

| | | |
|----------------|---------|---|
| Filter changes | \$ 514 | (twice annually = 2*\$257 = \$514) |
| Labor | \$ 610 | (twice annually = 2*\$305 = \$610) (32 total hrs labor at \$19.06/hr) |
| Replacement | \$ 1120 | (twice annually = 2*\$560 = \$1120) |
| TOTAL | \$2,244 | |

- (3) based on a positive and negative lead oxide powder unit cost of \$0.80 and \$0.80 per pound, respectively, and a positive and negative lead oxide powder bottleneck collection rate of 1852.1 and 1513.5 pounds per month (based on AP-42 Table 11.12-2 emission factor of 3.14 lbs/ton), the annualized cost savings of collecting and using the positive and negative lead oxide powder is \$32,309.8 per year. The cost savings analysis is as follows:

Positive Oxide Bottleneck Collection Rate

$$(1,191,581 \text{ lbs/month}) * (3.14 \text{ lb emitted/ton}) * (99.0\% \text{ collection efficiency}) * (\text{ton}/2000 \text{ lbs}) \\ = 1852.1 \text{ lbs collected/month}$$

Negative Oxide Bottleneck Collection Rate

$$(973,728 \text{ lbs/month}) * (3.14 \text{ lb emitted/ton}) * (99.0\% \text{ collection efficiency}) * (\text{ton}/2000 \text{ lbs}) \\ = 1513.5 \text{ lbs collected/month}$$

Positive Oxide Collection Cost Savings

$$(1852.1 \text{ lbs collected/month}) * (\$0.80/\text{lb}) * (12 \text{ months/year}) = \$17,780.2 \text{ /year savings}$$

Negative Oxide Collection Cost Savings

$$(1513.5 \text{ lbs collected/month}) * (\$0.80/\text{lb}) * (12 \text{ months/year}) = \$14,529.6 \text{ /year savings}$$

$$\text{Total Cost Savings} = \$17,780.2 + \$14,529.6 = \$32,309.8 \text{ /year}$$

Based on the costs and savings above, the overall net annualized cost savings of installing and operating the bin vent filters is \$14,015.8 per year (\$32,309.8 - \$16,050 - \$2,244).

IDEM, OAQ has evaluated the justification and agreed that the bin vent filters described above will be considered as an integral part of the lead oxide silo filling operation, since the bin vent filters have an overwhelming positive net economic effect. Therefore, the permitting level will be determined using the potential to emit after the bin vent filters. Particulate and lead from the lead oxide silo filling operation shall be controlled by the bin vent filters at all times that the lead oxide silos are being filled, and the Permittee shall operate the bin vent filters in accordance with manufacturer's specifications.

Formation Bottleneck

Pursuant to FESOP No. 045-11285-00008, issued on May 26, 2000, C&D Technologies, Inc., demonstrated that a bottleneck exists at the source in the Formation process. All battery cell plates leaving the source require charging with an electrical current in the Formation process. When operating continuously at the maximum capacity, the Formation process has the lowest capacity of all the manufacturing processes; therefore the Formation process serves as the production bottleneck to all other manufacturing processes and limits their rate of operation. In order to increase the maximum capacity of the Formation process, additional building space and formation water cooling tanks would be required. The bottleneck throughput for each manufacturing process is listed in the emission calculations (see Appendix A).

Based on the Formation bottleneck, this lead-acid storage battery manufacturing plant has a maximum battery production rate of less than 2,000 batteries per day (see Appendix A, page 2, of this document for detailed production calculations). In order to render 326 IAC 2-2 (Prevention of

Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable, the permit will limit the potential to emit particulate matter (PM and PM_{2.5}) to less than two hundred fifty (250) tons per year, PM₁₀ to less than one hundred (100) tons per year, and lead to less than ten (10) tons per year, and will require a production limitation of less than 2,000 batteries per day.

Enforcement Issue

On October 24, 2007, IDEM issued a Notice of Violation (Case No. 2007-17167-A) to C&D Technologies, Inc., based on the findings of an air compliance inspection performed on June 13, 2007. The Notice of Violation included a failure to perform lead and opacity performance tests by the required date for several stack exhausts pursuant to Conditions D.1.7 and D.2.7 of FESOP No. 045-11285-00008 and failure to perform and maintain records of visible emissions notations for several stack exhausts pursuant to Conditions D.1.9(a), D.1.13(a), D.2.9(a), and D.2.16(a) of FESOP No. 045-11285-00008. IDEM is reviewing this matter and will take appropriate action.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Fountain County

| Pollutant | Designation |
|---|---|
| SO ₂ | Better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| O ₃ | Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹ |
| PM ₁₀ | Unclassifiable effective November 15, 1990. |
| NO ₂ | Cannot be classified or better than national standards. |
| Pb | Not designated. |
| ¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} . | |

(a) Ozone Standards

- (1) 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.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, and St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
- (4) 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 ozone. Fountain County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fountain County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

- (c) **Other Criteria Pollutants**
Fountain 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.

Fugitive Emissions

This type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, however, the source belongs to a stationary source category that as of August 7, 1980, is regulated (effective date of proposal) by New Source Performance Standards (NSPS) (this source is subject to 40 CFR Part 60, Subpart KK, Standards of Performance for Lead-Acid Battery Manufacturing Plants, which was proposed on January 14, 1980). Therefore fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

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

| Pollutant | Potential To Emit (tons/year) |
|---------------------|-------------------------------|
| PM | 377.54 |
| PM10 ⁽¹⁾ | 378.49 |
| PM2.5 | 378.49 |
| SO ₂ | 0.19 |
| NO _x | 32.30 |
| VOC | 3.85 |
| CO | 27.13 |

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

| HAPs | Potential To Emit (tons/year) |
|-------------------|-------------------------------|
| Formaldehyde | 0.02 |
| n-Hexane | 0.58 |
| Lead | 66.88 |
| Antimony | 0.02 |
| all other HAPs | negligible |
| TOTAL HAPs | 67.52 |

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of PM, PM10, and PM2.5 is greater than one hundred (100) tons per year. The PTE of all other regulated criteria pollutants are less than one hundred (100) tons per year. The source would have been

subject to the provisions of 326 IAC 2-7. However, the source will be issued a Federally Enforceable State Operating Permit (FESOP) (326 IAC 2-8), because the source will continue to limit emissions to less than the Title V major source threshold levels.

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of lead is greater than ten (10) tons per year and the PTE of a combination of HAPs is greater than twenty-five (25) tons per year. Therefore, the source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a FESOP (326 IAC 2-8), because the source will continue to limit emissions of HAPs to less than the Title V major source threshold levels.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit of the entire source after issuance of this FESOP, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this FESOP, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| Process/ Emission Unit | Potential To Emit of the Entire Source After Issuance of FESOP (tons/year) | | | | | | | | |
|---|--|-------|-------|-----------------|-------|------|-------|------------|------------------|
| | PM | PM10 | PM2.5 | SO ₂ | NOx | VOC | CO | Total HAPs | Worst Single HAP |
| Lead Oxide Pneumatic Conveying | 1.99 | 1.09 | 1.09 | | | | | 1.84 | 1.84 (lead) |
| Small Parts Casting | 0.24 | 0.35 | 0.35 | | | | | 0.16 | 0.16 (lead) |
| Grid Casting | 1.74 | 1.74 | 1.74 | | | | | 0.27 | 0.27 (lead) |
| Pasting/Mixing | 2.63 | 2.63 | 2.63 | | | | | 0.30 | 0.30 (lead) |
| 3PO Process | 68.30 | 68.30 | 68.30 | | | | | 3.63 | 3.63 (lead) |
| Formation Process | 19.87 | 19.87 | 19.87 | | | | | 0 | 0 |
| Central Vac | 1.64 | 1.64 | 1.64 | | | | | 0.04 | 0.04 (lead) |
| Adhesives and Degreasing | | | | | | 2.07 | | negl. | negl. |
| Ovens, Heaters, and Boilers | 0.61 | 2.45 | 2.45 | 0.19 | 32.30 | 1.78 | 27.13 | 0.61 | 0.58 (hexane) |
| Total PTE of Entire Source | 97.02 | 98.08 | 98.08 | 0.19 | 32.30 | 3.85 | 27.13 | 6.86 | 6.24 (lead) |
| Title V Major Source Thresholds | NA | 100 | - | 100 | 100 | 100 | 100 | 25 | 10 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | 250 | 250 | 250 | NA | 25 (lead) |
| negl. = negligible * Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". | | | | | | | | | |

- (a) **FESOP Status**
This existing source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will continue to be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs will continue to be limited to less than ten (10) tons per year for a single HAP (lead) and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).
- (b) **PSD Minor Source**
This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM, PM10, and PM2.5 will continue to be limited to less than 250 tons per year, the potential to emit lead will continue to be limited to less than 25 tons per year, the lead-acid storage battery manufacturing plant will limit production to less than 2,000 batteries per day, the potential to emit all other attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability

New Source Performance Standards (NSPS)

- (a) This source is subject to 40 CFR 60, Subpart KK, New Source Performance Standards for Lead-Acid Battery Manufacturing Plants (40 CFR 60.370 through 60.374)(326 IAC 12), because this source is a lead-acid battery manufacturing plant that contains facilities listed in 40 CFR 60.370(b) and that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons). This rule requires that:
- (1) the grid casting facilities shall each not emit any gases that contain in excess of 0.000175 grains of lead per dry standard cubic foot of exhaust,
 - (2) the paste mixing and the three-process operation facilities shall each not emit any gases that contain in excess of 0.000437 grains of lead per dry standard cubic foot of exhaust,
 - (3) all other lead-emitting operations from which lead emissions are collected and ducted to the atmosphere shall each not emit any gases that contain in excess of 0.000437 grains of lead per dry standard cubic foot of exhaust, and
 - (4) the exhaust stacks from all facilities used in the manufacture of lead-acid storage batteries other than a lead reclamation facilities shall be limited to zero (0) percent opacity.

Stack testing is required to verify compliance with the above limits.

Applicable portions of the NSPS are the following:

- (1) 40 CFR 60.370
- (2) 40 CFR 60.371
- (3) 40 CFR 60.372
- (4) 40 CFR 60.373
- (5) 40 CFR 60.374

Nonapplicable portions of the NSPS will not be included in the permit.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the source except as otherwise specified in 40 CFR 60, Subpart KK.

- (b) The requirements of 40 CFR 60, Subpart L, New Source Performance Standard for Secondary Lead Smelting (40 CFR 60.120 through 40 CFR 60.123) (326 IAC 12) are not included in the permit, because C&D Technologies does not perform any of the activities that are considered secondary lead smelting pursuant to 40 CFR 63.120 and 63.121.
- (c) The requirements of 40 CFR 60, Subpart R, New Source Performance Standard for Primary Lead Smelting (40 CFR 60.180 through 40 CFR 60.186) (326 IAC 12) are not included in the permit, because C&D Technologies does not perform any of the activities that are considered primary lead smelting pursuant to 40 CFR 63.180 and 63.181.
- (d) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (e) This area source is subject to 40 CFR 63, Subpart P, National Emission Standards for Hazardous Air Pollutants for Lead Acid Battery Manufacturing Area Sources (40 CFR 63.11421 through 40 CFR 63.11427), because this source is an existing lead acid battery manufacturing plant (constructed before April 4, 2007) that is an area source of hazardous air pollutants (HAP) emissions.

The affected source is each lead acid battery manufacturing plant. The affected source includes all grid casting facilities, paste mixing facilities, three-process operation facilities, lead oxide manufacturing facilities, lead reclamation facilities, and any other lead-emitting operation that is associated with the lead acid battery manufacturing plant.

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.11421
- (2) 40 CFR 63.11422
- (3) 40 CFR 63.11423
- (4) 40 CFR 63.11424
- (5) 40 CFR 63.11425
- (6) 40 CFR 63.11426
- (7) 40 CFR 63.11427

Nonapplicable portions of the NESHAP will not be included in the permit.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart P.

- (f) The requirements of 40 CFR 63, Subpart X, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Lead Smelting (40 CFR 63.541 through 40 CFR 63.551) (326 IAC 20-13) are not included in the permit, because C&D Technologies does not perform any of the activities that are considered secondary lead smelting pursuant to 40 CFR 63.541 and 63.542.
- (g) The requirements of 40 CFR 63, Subpart TTT, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Primary Lead Smelting (40 CFR 63.1541 through 40 CFR 63.1550) (326 IAC 20-13) are not included in the permit, because C&D Technologies does not perform any of the activities that are considered primary lead smelting pursuant to 40 CFR 63.1541 and 63.1542.
- (h) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability - Entire Source

The following state rules are applicable to the source:

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM, PM10, and PM2.5 will continue to be limited to less than 250 tons per year, the potential to emit lead will continue to be limited to less than 25 tons per year, the lead-acid storage battery manufacturing plant will limited production to less than 2,000 batteries per day, the potential to emit all other attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to limit the source-wide total potential to emit particulate matter (PM) and particulate matter less than 2.5 microns in diameter (PM2.5) to less than 250 tons per 12 consecutive month period, each, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, PM and PM2.5 emissions from the individual emissions units shall each not exceed the following:

| Operation/Stack ID | Potential PM/PM2.5 Emission Rate After Controls (pounds per hour) | Hourly PM and PM2.5 Emission Limit (pounds per hour) |
|--|--|---|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.00272 | 0.13601 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.01831 | 0.91562 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.00072 0.00072 0.00072 | 0.02510 0.02510 0.02510 |
| Paste mixing system (EU 0300C) Stack 231 | 0.00228 | 1.13783 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.00030 | 0.02999 |
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 0.68132 | 16.83672 total |
| Flash dry oven (PA025) Stack 249 | 0.00393 | 0.13746 |
| Flash dry oven (PA026) Stack 250 | 0.00393 | 0.13746 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00011 0.00011 0.00011 0.00011 | 0.00382 0.00382 0.00382 0.00382 |

| Operation/Stack ID | Potential PM/PM2.5 Emission Rate After Controls (pounds per hour) | Hourly PM and PM2.5 Emission Limit (pounds per hour) |
|---|--|---|
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193, and 194 | 0.00011 0.00011 0.00011 0.00011 | 0.00382 0.00382 0.00382 0.00382 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237, and 238 | 0.00011 0.00011 0.00011 0.00011 | 0.00382 0.00382 0.00382 0.00382 |
| Bone Dry Ovens (BDO-7 through BDO-10) Stacks 23, 24, 165, and 25 | 0.00011 0.00011 0.00011 0.00011 | 0.00382 0.00382 0.00382 0.00382 |
| 3PO-plate processing (EU 0700B) Stack 152 | 0.05852 | 2.92575 |
| 3PO-plate processing (EU 0700C) Stack 151 | 0.05852 | 2.92575 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 0.03722 | 1.64175 total |
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 0.12633 | 6.19747 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.01972 | 0.98614 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 0.04644 | 2.32195 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 0.02957 | 1.47853 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 0.05463 | 2.73170 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.00014 | 0.00695 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.01778 | 0.88917 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.00121 | 0.04220 |
| Tank dry formation (EU 0900A) Stack 178 | 0.32400 | 11.34000 |
| Central Vacuum (Maint2000A) Stack 113 | 0.00375 | 0.18729 |
| Central Vacuum (Maint2000B) Stack 129 | 0.00375 | 0.18729 |
| Central Vacuum (Maint2000C) Stack 130 | 0.00375 | 0.18729 |
| Central Vacuum (Maint2000D) Stack 131 | 0.00375 | 0.18729 |
| Central Vacuum (Maint2000E) Stack 224 | 0.00375 | 0.18729 |
| Total | 1.51 | 53.89 |

(b) 326 IAC 2-8-4 (FESOP)

This existing source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will continue to be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs will continue to be limited to less than ten (10) tons per year for a single HAP (lead) and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to limit the source-wide total potential to emit applicable particulate matter less than 10 microns in diameter (PM10) to less than 100 tons per 12 consecutive month period and render 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-7 (Part 70 Permits) not applicable, PM10 emissions from the individual emissions units shall not exceed the following:

| Operation/Stack ID | Potential PM₁₀ Emission Rate After Controls (pounds per hour) | Hourly PM₁₀ Emission Limit (pounds per hour) |
|---|---|--|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.00272 | 0.05440 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.01831 | 0.36625 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.00072 0.00072 0.00072 | 0.01004 0.01004 0.01004 |
| Paste mixing system (EU 0300C) Stack 231 | 0.00228 | 0.45513 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.00030 | 0.01200 |
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 0.68132 | 6.73469 total |
| Flash dry oven (PA025) Stack 249 | 0.00393 | 0.05498 |
| Flash dry oven (PA026) Stack 250 | 0.00393 | 0.05498 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00011 0.00011 0.00011 0.00011 | 0.00153 0.00153 0.00153 0.00153 |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193, and 194 | 0.00011 0.00011 0.00011 0.00011 | 0.00153 0.00153 0.00153 0.00153 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237, and 238 | 0.00011 0.00011 0.00011 0.00011 | 0.00153 0.00153 0.00153 0.00153 |
| Bone Dry Ovens (BDO-7 through BDO-10) Stacks 23, 24, 165, and 25 | 0.00011 0.00011 0.00011 0.00011 | 0.00153 0.00153 0.00153 0.00153 |
| 3PO-plate processing (EU 0700B) Stack 152 | 0.05852 | 1.17030 |

| Operation/Stack ID | Potential PM₁₀ Emission Rate After Controls (pounds per hour) | Hourly PM₁₀ Emission Limit (pounds per hour) |
|--|---|--|
| 3PO-plate processing (EU 0700C) Stack 151 | 0.05852 | 1.17030 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 0.03722 | 0.65670 total |
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 0.12633 | 2.47899 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.01972 | 0.39446 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 0.04644 | 0.92878 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 0.02957 | 0.59141 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 0.05463 | 1.09268 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.00014 | 0.00278 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.01778 | 0.35567 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.00121 | 0.01688 |
| Tank dry formation (EU 0900A) Stack 178 | 0.32400 | 4.53600 |
| Central Vacuum (Maint2000A) Stack 113 | 0.00375 | 0.07491 |
| Central Vacuum (Maint2000B) Stack 129 | 0.00375 | 0.07491 |
| Central Vacuum (Maint2000C) Stack 130 | 0.00375 | 0.07491 |
| Central Vacuum (Maint2000D) Stack 131 | 0.00375 | 0.07491 |
| Central Vacuum (Maint2000E) Stack 224 | 0.00375 | 0.07491 |
| Total | 1.51 | 21.56 |

In order to limit the source-wide total potential to emit lead to less than 10 tons per 12 consecutive month period, and render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable, lead emissions from the individual emissions units shall not exceed the following:

| Operation/Stack ID | Potential Lead Emission Rate After Controls (pounds per hour) | Hourly Lead Emission Limits (pounds per hour) |
|--|--|--|
| Small parts flaming (EU 0100 A and B) Stack 195 | 0.00143 | 0.07920 total |
| Grid casting operation (EU 0200A) Stack 196 | 0.00527 | 0.09900 |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) Stacks 226 - 228 | 0.00021 0.00021 0.00021 | 0.01236 0.01236 0.01236 |
| Paste mixing system (EU 0300C) Stack 231 | 0.00131 | 0.03461 |
| Expander manufacturing (EU 0300D) Stack 159 | 0.00017 | 0.06098 |
| Grid pasting (EU 0300E) and Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 0.11071 | 0.31417 total |
| Flash dry oven (PA025) Stack 249 | 0.00226 | 0.00742 |
| Flash dry oven (PA026) Stack 250 | 0.00226 | 0.00742 |
| Humidity ovens (EU 0300 F, G, H, and I) Stacks 26 - 29 | 0.00006 0.00006 0.00006 0.00006 | 0.00348 0.00348 0.00348 0.00348 |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) Stacks 179, 180, 193 and 194 | 0.00006 0.00006 0.00006 0.00006 | 0.00227 0.00227 0.00227 0.00227 |
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) Stacks 234, 235, 237 and 238 | 0.00006 0.00006 0.00006 0.00006 | 0.00227 0.00227 0.00227 0.00227 |
| Natural gas-fired Bone Dry ovens (BDO-7 through BDO-10) Stacks 23, 24, 165 and 25 | 0.00006 0.00006 0.00006 0.00006 | 0.00227 0.00227 0.00227 0.00227 |
| 3PO-plate processing (EU 0700B) Stack 152 | 0.00923 | 0.16481 |
| 3PO-plate processing (EU 0700C) Stack 151 | 0.00923 | 0.16481 |
| 3PO-plate processing (EU 0700E) and 3PO-MP assembly (EU 0800D) Stack 127 | 0.00587 | 0.10713 total |
| 3PO-plate processing (EU 0700F) and 3PO-JC/D assembly (EU 0800E) Stack 247 | 0.01992 | 0.41203 total |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 0.00311 | 0.08570 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 0.00732 | 0.08570 |

| Operation/Stack ID | Potential Lead Emission Rate After Controls (pounds per hour) | Hourly Lead Emission Limits (pounds per hour) |
|---|--|--|
| 3PO-L plate assembly (EU 0800C) Stack 142 | 0.00466 | 0.07087 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 0.00861 | 0.20601 |
| 3PO-L cell cover insert (EU 0800H) Stack 141 | 0.00002 | 0.01978 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 0.00280 | 0.18129 |
| LCT 1700 Battery Curing Ovens Stack 246 | 0.00019 | 0.00989 |
| Central Vacuum (Maint2000A) Stack 113 | 0.00043 | 0.00412 |
| Central Vacuum (Maint2000B) Stack 129 | 0.00043 | 0.00412 |
| Central Vacuum (Maint2000C) Stack 130 | 0.00043 | 0.00412 |
| Central Vacuum (Maint2000D) Stack 131 | 0.00043 | 0.00412 |
| Central Vacuum (Maint2000E) Stack 224 | 0.00043 | 0.00412 |
| Total | 0.198 | 2.21 |

- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
This source is not subject to the requirements of 326 IAC 2-4.1, since the potential to emit of HAPs from each of the facilities at this source is less than or limited to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (d) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
Pursuant to 326 IAC 6-5(b), this source is not subject to the requirements of 326 IAC 6-5, because this source received preconstruction approval prior to December 13, 1985.
- (h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

State Rule Applicability - Individual Facilities

- (j) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
Pursuant to 326 IAC 6-2-4, the following five natural gas-fired boilers are subject to 326 IAC 6-2-4, since they were installed after September 21, 1983:
 - (1) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 163, rated at 0.690 million British thermal units per hour.
 - (2) One (1) natural gas-fired pasting boiler, installed prior to 1999, exhausting through Stack 164, rated at 1.050 million British thermal units per hour.
 - (3) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 236, rated at 0.340 million British thermal units per hour.
 - (4) One (1) natural gas-fired boiler, installed in December 2000, exhausting through Stack 239, rated at 0.340 million British thermal units per hour.
 - (5) One (1) natural gas-fired universal oven boiler, installed in December 2000, exhausting through Stack 225, rated at 0.340 million British thermal units per hour.

These boilers have a total maximum operating capacity of 2.76 million British thermal units per hour. Pursuant to 326 IAC 6-2-4(a), for a total maximum operating capacity less than 10 million British thermal units per hour, particulate emissions shall not exceed 0.6 pounds per million British thermal units (lb/MMBtu).

Based on the AP-42 particulate emission factor for natural gas combustion, the potential to emit particulate emissions of these boilers is 0.0019 pounds per million British thermal units. Therefore, these boilers are able to comply with this rule when burning natural gas.

- (k) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 - (a) Pursuant to 326 IAC 6-3-1(b)(14), each of the following emission units are exempt from the requirements of 326 IAC 6-3, because they each have potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour:

| Operation/Stack ID |
|---|
| Small parts casting and flaming (EU 0100 A and B) |
| Natural gas-fired grid curing ovens (EU 0200B through EU 0200D) |
| Positive lead oxide pneumatic conveying to storage silo (EU 0300A) |
| Negative lead oxide pneumatic conveying to storage silo (EU 0300Bn) |
| Expander manufacturing (EU 0300D) |
| Grid pasting (EU 0300E) |
| Flash dry ovens (PA025 and PA026) |
| Humidity ovens (EU 0300 F, G, H, and I) |
| Natural gas-fired Universal curing ovens (EU 0300 J, K, L and M) |

| Operation/Stack ID |
|---|
| Natural gas-fired OSI Universal ovens (EU 0500E through EU 0500H) |
| 3PO-plate processing (EU 0700E) |
| 3PO-JC/D assembly (EU 0800E) |
| 3PO-L cell cover insert (EU 0800H) |
| Tank dry formation (EU 0900A) |
| Tank wet formation (EU 0900B) |
| Tank wet formation (EU 0900C) |

- (b) Pursuant to 326 IAC 6-3-2, each of the emission units below are subject to the requirements of 326 IAC 6-3, because they each have potential particulate emissions greater than five hundred fifty-one thousandths (0.551) pound per hour. Pursuant to 326 IAC 6-3-2, particulate emissions from the facilities listed in this section shall not exceed the allowable emission rates listed in the following table:

| Operation/Stack ID | Process Weight Rate (pounds per hour) | 326 IAC 6-3-2 Allowable Particulate Emission Rate (pounds per hour) | Potential PM Emission Rate After Controls (pounds per hour) |
|---|--|--|--|
| Grid casting operation (EU 0200A) Stack 196 | 5,197 | 7.77 | 0.018 |
| Paste mixing system (EU 0300C) Stack 231 | 6,268 | 8.81 | 0.002 |
| Pasted Plate Processing Machines (PA027 and PA028) Stack 230 | 17264 | 17.38 | 0.673 |
| 3PO-plate processing (EU 0700B) Stack 152 | 4000 | 6.52 | 0.059 |
| 3PO-plate processing (EU 0700C) Stack 151 | 4000 | 6.52 | 0.059 |
| 3PO-plate processing (EU 0700F) Stack 127 | 8,473 | 10.79 | 0.124 |
| 3PO-L plate assembly (EU 0800A) Stack 140 | 1,444 | 3.30 | 0.020 |
| 3PO-L plate assembly (EU 0800B) Stack 166 | 3,400 | 5.85 | 0.046 |
| 3PO-L plate assembly (EU 0800C) Stack 142 | 2,165 | 4.32 | 0.030 |
| 3PO-MP assembly (EU 0800D) Stack 127 | 2,404 | 4.64 | 0.033 |
| 3PO-MCT assembly (EU 0800F) Stack 188 | 4,000 | 6.52 | 0.055 |
| LCT 1700 assembly with two jigs (EU 0800K) Stack 244 | 1,302 | 3.08 | 0.018 |
| Central Vacuum (Maint2000A) Stack 113 | 0.375 | 0.551 | 0.004 |
| Central Vacuum (Maint2000B) Stack 129 | 0.375 | 0.551 | 0.004 |
| Central Vacuum (Maint2000C) Stack 130 | 0.375 | 0.551 | 0.004 |
| Central Vacuum (Maint2000D) Stack 131 | 0.375 | 0.551 | 0.004 |
| Central Vacuum (Maint2000E) Stack 224 | 0.375 | 0.551 | 0.004 |

The pounds per hour limitations were calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

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

When the process weight rate is less than one hundred (100) pounds per hour, the allowable rate of emission is five hundred fifty-one thousandths (0.551) pound per hour.

The particulate control equipment shall be in operation at all times that the emission units listed in the following table are in operation, in order to comply with these limits.

| Particulate Control Equipment | Emission Units, EU |
|-------------------------------|--|
| Baghouse or Dust Collector | 0200A, 0700B, 0700C, 0700F, 0800 A - D, F, and K, Maint2000A - E |
| Scrubber | 0300C and Pasted Plate Processing Machines (PA027 and PA028) |

IDEM, OAQ has agreed that the bin vent filters as an integral part of the lead oxide silo filling operation (pneumatic conveying of positive and negative lead oxide from trucks to a storage silos EU 0300A and EU 0300Bn) (see Air Pollution Control Justification as an Integral Part of the Process section above). Therefore, particulate from the lead oxide silo filling operation shall be controlled by the bin vent filters at all times that the lead oxide silos are being filled, and the Permittee shall operate the bin vent filters in accordance with manufacturer's specifications.

- (l) 326 IAC 7-1.1-1 (Sulfur dioxide emission limitations)
 Since none of the emission units at this source are subject to the requirements of 326 IAC 7-1, because they each have potential and actual emissions of sulfur dioxide of less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.
- (m) 326 IAC 15-1 (Lead Emission Limitations)
 Pursuant to 326 IAC 15-1-2(b)(2), the Permittee (listed in 326 IAC 15-1-2(b)(2) under the company name of C & D Batteries, Attica) shall comply with 326 IAC 15-1-2(c) and 326 IAC 15-1-3. The specific rules are as follows:
 - (1) 326 IAC 15-1-2(c)
 Operation and maintenance programs shall be designed to prevent deterioration of control equipment performance. For sources listed in 326 IAC 15-1-2(a)(1) through (7), these programs shall be submitted to the Office of Air Management on or before June 1, 1987. For sources listed in 326 IAC 15-1-2(b), these programs shall be submitted to the Office of Air Management on or before February 1, 1988. These programs will be incorporated into the individual source operation permits.
 - (2) 326 IAC 15-1-3 (Lead emission limitations: control of fugitive lead dust)
 - (A) No source shall create or maintain outdoor storage of bulk materials containing more than one percent (1.0%) lead by weight of less than two hundred (200) mesh size particles.

- (B) All materials containing more than one percent (1.0%) lead by weight of less than two hundred (200) mesh size particles shall be transported in closed containers or shall be transported by enclosed conveying systems that are vented to the atmosphere through particulate matter control equipment or shall be transported wet.
 - (C) Control programs shall be designed to minimize emissions of lead from all nonprocess fugitive emission points. The programs shall include good housekeeping practices for the cleanup of spills and for minimizing emissions from loading and unloading areas as applicable. For sources listed in 326 IAC 15-1-2(a), these programs shall be submitted to the Department of Environmental Management, Office of Air Management, on or before June 1, 1987. For sources listed in 326 IAC 15-1-2(b), these programs shall be submitted to the Department of Environmental Management, Office of Air Management, on or before February 1, 1988. These programs will be incorporated into the individual source operation permits.
- (n) 326 IAC 8-3-2 (Cold Cleaner Operations)
The cold cleaner degreasing operations are subject to the requirements of 326 IAC 8-3-2. Pursuant to 326 IAC 8-3-2, for each of the cold cleaning degreasers, the owner or operator shall:
- (1) Equip the cleaner with a cover;
 - (2) Equip the cleaner with a facility for draining cleaned parts;
 - (3) Close the degreaser cover whenever parts are not being handled in the cleaner;
 - (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
 - (5) Provide a permanent, conspicuous label summarizing the operation requirements;
 - (6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
- (o) 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)
Pursuant 326 IAC 8-3-5(a), the owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaning degreasers:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

Pursuant 326 IAC 8-3-5(b), the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaning degreasers:

- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or unit dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (p) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each is less than twenty-five (25) tons per year.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in 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.

- (a) The compliance determination requirements applicable to this source are as follows:
- (1) Each of the particulate control devices shall be in operation and control emissions from the respective battery manufacturing operations at all times that the battery manufacturing operations are in operation; and
 - (2) Within two and one-half (2.5) years from the date of the most recent valid compliance demonstration of a group, the Permittee shall perform lead and opacity testing of one (1) of the stacks in each group as specified in the following table utilizing methods as approved by the Commissioner to demonstrate compliance with the NSPS Subpart KK requirements. These lead and opacity performance tests shall be repeated on a different stack for groups with multiple stacks at least once every two and one-half (2.5) years from the date of the last valid compliance demonstration of the group. For groups with multiple stacks, testing of any individual stack shall not be repeated until each stack within the group has been tested. In addition to these requirements, IDEM may require compliance testing when necessary to determine if these facilities are in compliance.

Pursuant to First Administrative Amendment No. 045-14821-00008, issued March 13, 2002, in a memorandum (dated February 21, 2002) from George T. Czerniak, Chief of the US EPA Region 5 Air Enforcement and Compliance Assurance Branch to C&D Technologies, Inc., approval was granted for an alternative stack testing parameter for only the Group 3 (EU 0300A and EU 0300Bn) lead oxide storage silos. The stack sampling time for the Group 3 test is decreased to fifteen (15) minutes. The Permittee shall perform two (2) tests and the results of these two (2) tests shall be averaged.

| EMISSION UNITS GROUPED BY LIKE PROCESSES AND COLLECTION EQUIPMENT | | |
|---|-----------------------------|--------------|
| Group | Emission Unit | Stack |
| 1 | EU 0100A and 0100B | 195 |
| | EU 0200A | 196 |
| 2 | EU 0200B | 226 |
| | EU 0200C | 227 |
| | EU 0200D | 228 |
| | EU 0300D | 159 |
| 3 | EU 0300A | Bin Vent 232 |
| | EU 0300Bn | Bin Vent 233 |
| 4 | EU 0300C | 231 |
| | EU 0300E, PA027, and PA028) | 230 |

| EMISSION UNITS GROUPED BY LIKE PROCESSES AND COLLECTION EQUIPMENT | | |
|--|-------------------------------|-------|
| Group | Emission Unit | Stack |
| 5 | PA025 | 249 |
| | PA026 | 250 |
| | EU 0300F | 26 |
| | EU 0300G | 27 |
| | EU 0300H | 28 |
| | EU 0300I | 29 |
| | EU 0300J | 179 |
| | EU 0300K | 180 |
| | EU 0300L | 193 |
| | EU 0300M | 194 |
| | EU 0500E | 234 |
| | EU 0500F | 235 |
| | EU 0500G | 237 |
| | EU 0500H | 238 |
| | BDO-7 | 23 |
| | BDO-8 | 24 |
| | BDO-9 | 165 |
| BDO-10 | 25 | |
| 6 | EU 0700F and 0800E | 247 |
| | EU 0700B | 152 |
| | EU 0700C | 151 |
| | EU 0800D and 0700E | 127 |
| 7 | MAINT2000A | 113 |
| | MAINT2000B | 129 |
| | MAINT2000C | 130 |
| | MAINT2000D | 131 |
| | MAINT2000E | 224 |
| 8 | EU 0800A | 140 |
| | EU 0800B | 166 |
| | EU 0800C | 142 |
| | EU 0800F | 167 |
| | EU 0800H | 141 |
| | EU 0800K | 244 |
| | LCT 1700 Battery Curing Ovens | 246 |

These compliance determination requirements are necessary to ensure compliance with NSPS Subpart KK and 326 IAC 2-8 (FESOP).

- (b) The compliance monitoring requirements applicable to this source are as follows:
 - (1) The compliance monitoring requirements applicable to each of the baghouses controlling particulate emissions from each of the battery manufacturing operations are as follows:
 - (A) The Permittee shall perform daily visible emission notations of each baghouse stack exhaust; and
 - (B) The Permittee shall perform daily pressure drop readings of each baghouse.

The pressure drop across each of the baghouses shall be maintained within the ranges specified in the following table or a range established during the latest stack test.

| Emission Unit | Stack/Vent ID | Pressure Drop (inches of water) |
|--------------------|---------------|---------------------------------|
| EU 0100A | 195 | 1 - 6 |
| EU 0200A | 196 | 1 - 6 |
| EU 0300A | 232 | 1 - 7 |
| EU 0300Bn | 233 | 1 - 7 |
| EU 0300D | 159 | 2 - 7 |
| EU 0700B | 152 | 2 - 7 |
| EU 0700C | 151 | 2 - 7 |
| EU 0700E and 0800D | 127 | 2 - 8 |
| EU 0700F and 0800E | 247 | 1 - 7 |
| EU 0800A | 140 | 1 - 6 |
| EU 0800B | 166 | 1 - 6 |
| EU 0800C | 142 | 5 - 11 |
| EU 0800F | 188 | 1 - 6 |
| EU 0800H | 141 | 2 - 6 and 2 - 6 |
| EU 0800K | 244 | 1 - 6 |
| MAINT2000A | 113 | 2 - 10 |
| MAINT2000B | 129 | 0.5 - 8 |
| MAINT2000C | 130 | 1 - 9 |
| MAINT2000D | 131 | 2 - 10 |
| MAINT2000E | 224 | 2 - 10 |

(C) The Permittee shall perform semiannual inspections of each baghouse.

These monitoring conditions are necessary because each of the baghouses must operate properly to ensure compliance with NSPS Subpart KK, 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

(2) The compliance monitoring requirements applicable to each of the scrubbers controlling particulate emissions from the pneumatic conveying of lead oxide to the paste mixing system (EU 0300C), the paste mixing system (EU 0300C), and the grid pasting system (EU 0300E) are as follows:

(A) The Permittee shall perform daily visible emission notations of each scrubber stack exhaust; and

(B) The Permittee shall perform daily pressure drop readings across the Tri Mer wet scrubbers (Stack 231). The Permittee shall perform daily water flow rate readings and pressure drop readings across the Sly Manufacturing scrubber (Stack 230).

The pressure drop across each scrubber or the water flow rate of each scrubber shall be maintained within the ranges specified in the following table or a range established during the latest stack test.

| Emission Unit | Stack/Vent ID | Pressure Drop (inches of water) | Flow Rate (gallons per minute) |
|----------------------------|---------------|---------------------------------|--------------------------------|
| EU 0300C | 231 | 4 - 10 | Not Applicable |
| EU 0300E, PA027, and PA028 | 230 | 3 - 8 | 30 |

(C) The Permittee shall perform semiannual inspections of each scrubber.

These monitoring conditions are necessary because each of the scrubbers must operate properly to ensure compliance with NSPS Subpart KK, 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal 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 July 26, 2004. Additional information was received on September, 16, 2008, September 24, 2008, September 29, 2008, November 6, 2008, November 14, 2008, and November 21, 2008, December 2, 2008, December 3, 2008, December 4, 2008, December 8, 2008, December 10, 2008, December 12, 2008, December 19, 2008, and January 6, 2009.

Conclusion

The operation of this stationary custom industrial battery manufacturing source shall be subject to the conditions of the attached FESOP Renewal No. F045-19413-00008.

**Appendix A: Emissions Calculations
Emission Summary**

**Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Plt ID: 045-00008
Reviewer: Nathan C. Bell**

| Uncontrolled/Unlimited Potential Emissions (tons/year) | | | | | | | | | | | |
|---|-----------------|--------------------------------|---------------------|--------------|----------------|-------------|-------------------|----------------|--------------------------|-----------------------------|--------------|
| Emissions Generating Activity | | | | | | | | | | | |
| Category | Pollutant | Lead Oxide Pneumatic Conveying | Small Parts Casting | Grid Casting | Pasting/Mixing | 3PO Process | Formation Process | Central Vac | Adhesives and Degreasing | Ovens, Heaters, and Boilers | TOTAL |
| Criteria Pollutants | PM | 1.988 | 1.19 | 8.03 | 11.99 | 344.10 | 1.42 | 8.20 | | 0.61 | 377.54 |
| | PM10 | 1.095 | 1.19 | 8.03 | 11.99 | 344.10 | 1.42 | 8.20 | | 2.45 | 378.49 |
| | PM2.5 | 1.095 | 1.19 | 8.03 | 11.99 | 344.10 | 1.42 | 8.20 | | 2.45 | 378.49 |
| | SO2 | | | | | | | | | 0.19 | 0.19 |
| | NOx | | | | | | | | | 32.30 | 32.30 |
| | VOC | | | | | | | | 2.07 | 1.78 | 3.85 |
| Hazardous Air Pollutants | CO | | | | | | | | | 27.13 | 27.13 |
| | Benzene | | | | | | | | | 6.8E-04 | 6.8E-04 |
| | Dichlorobenzene | | | | | | | | | 3.9E-04 | 3.9E-04 |
| | Formaldehyde | | | | | | | | | 0.02 | 0.02 |
| | n-Hexane | | | | | | | | | 0.58 | 0.58 |
| | Toluene | | | | | | | | 2.1E-03 | 1.1E-03 | 3.2E-03 |
| | Lead | 1.841 | 0.63 | 2.31 | 6.91 | 54.25 | 0 | 0.94 | | 1.6E-04 | 66.88 |
| | Cadmium | | | | | | | | | 3.6E-04 | 3.6E-04 |
| | Chromium | | | | | | | | | 4.5E-04 | 4.5E-04 |
| | Manganese | | | | | | | | | 1.2E-04 | 1.2E-04 |
| | Nickel | | | | | | | | | 6.8E-04 | 6.8E-04 |
| Antimony | | | 0.01 | 0.02 | | | | | | 0.02 | |
| Totals | 1.84 | 0.64 | 2.33 | 6.91 | 54.25 | 0 | 0.94 | 2.1E-03 | 0.61 | 67.52 | |
| | | | | | | | | | | Worse Case HAP | 66.88 |

Total emissions based on rated capacity at 8,760 hours/year.

| Limited Potential Emissions (tons/year)* | | | | | | | | | | | |
|---|-----------------|--------------------------------|---------------------|--------------|----------------|-------------|-------------------|----------------|--------------------------|-----------------------------|-------------|
| Emissions Generating Activity | | | | | | | | | | | |
| Category | Pollutant | Lead Oxide Pneumatic Conveying | Small Parts Casting | Grid Casting | Pasting/Mixing | 3PO Process | Formation Process | Central Vac | Adhesives and Degreasing | Ovens, Heaters, and Boilers | TOTAL |
| Criteria Pollutants | PM | 1.988 | 0.24 | 1.74 | 2.63 | 68.30 | 19.87 | 1.64 | | 0.61 | 97.02 |
| | PM10 | 1.095 | 0.35 | 1.74 | 2.63 | 68.30 | 19.87 | 1.64 | | 2.45 | 98.08 |
| | PM2.5 | 1.095 | 0.35 | 1.74 | 2.63 | 68.30 | 19.87 | 1.64 | | 2.45 | 98.08 |
| | SO2 | | | | | | | | | 0.19 | 0.19 |
| | NOx | | | | | | | | | 32.30 | 32.30 |
| | VOC | | | | | | | | 2.07 | 1.78 | 3.85 |
| Hazardous Air Pollutants | CO | | | | | | | | | 27.13 | 27.13 |
| | Benzene | | | | | | | | | 6.8E-04 | 6.8E-04 |
| | Dichlorobenzene | | | | | | | | | 3.9E-04 | 3.9E-04 |
| | Formaldehyde | | | | | | | | | 0.02 | 0.02 |
| | n-Hexane | | | | | | | | | 0.58 | 0.58 |
| | Toluene | | | | | | | | 2.1E-03 | 1.1E-03 | 3.2E-03 |
| | Lead | 1.841 | 0.16 | 0.27 | 0.30 | 3.63 | 0 | 0.041 | | 1.6E-04 | 6.24 |
| | Cadmium | | | | | | | | | 3.6E-04 | 3.6E-04 |
| | Chromium | | | | | | | | | 4.5E-04 | 4.5E-04 |
| | Manganese | | | | | | | | | 1.2E-04 | 1.2E-04 |
| | Nickel | | | | | | | | | 6.8E-04 | 6.8E-04 |
| Antimony | | | 2.1E-03 | 1.4E-03 | | | | | | 3.5E-03 | |
| Totals | 1.84 | 0.16 | 0.27 | 0.30 | 3.63 | 0 | 0.04 | 2.1E-03 | 0.61 | 6.86 | |
| | | | | | | | | | | Worse Case HAP | 6.24 |

*Limited Potential Emissions after NSPS, Subpart KK, lead (Pb) limitations and PM10 FESOP limitations

**Appendix A: Emissions Calculations
Formation Bottleneck Throughput**

Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Plt ID: 045-00008
Reviewer: Nathan C. Bell

Charging/Formation Process

Quantity of Computer Controlled Chargers

| Number of Chargers | Type | Charger Capacity (cells/charger) | Number of Cells Capable of Charging |
|--|---------------------------------|----------------------------------|-------------------------------------|
| 5 | 800 Amp 64 Cell (Jar Formation) | 64 | 320 |
| 19 | 600 Amp 64 Cell (Jar Formation) | 64 | 1216 |
| 81 | 600 Amp 72 Cell (Jar Formation) | 72 | 5832 |
| 61 | 200 Amp 64 Cell (Jar Formation) | 64 | 3904 |
| 38 | 100 Amp 66 Cell (Jar Formation) | 66 | 2508 |
| Total Jar Formation Cell Capacity | | | 13780 |

Maximum Anticipated Formation Throughput (based on typical battery assembly production mix)

| Battery Type | Typical Production of Battery Cells from Assembly Process (cells/hour) | Cell Mix | Cells On Charge in Jar Formation | lbsPb/Cell | Charging Cycle Time (hours) | lbsPb/hr | Cells/hr | Cells/Battery | Batteries/hr | Batteries/day |
|--------------|--|----------|----------------------------------|------------|-----------------------------|---------------|----------|---------------|--------------|---------------|
| 2XLT-17 | 102.2 | 64.68% | 8913.4 | 117.2 | 194.32 | 5375.9 | 45.87 | 2 | 22.9 | 550.4 |
| LCT1680 | 7.3 | 4.62% | 636.7 | 217.1 | 292.7 | 472.3 | 2.18 | 1 | 2.2 | 52.2 |
| KCR 11 | 10.5 | 6.65% | 915.8 | 78.1 | 271.93 | 263.0 | 3.37 | 1 | 3.4 | 80.8 |
| 3XDJ-9 | 33 | 20.89% | 2878.1 | 27.9 | 253 | 317.4 | 11.38 | 3 | 3.8 | 91.0 |
| MCT4000 | 5 | 3.16% | 436.1 | 373.5 | 295.03 | 552.1 | 1.48 | 1 | 1.5 | 35.5 |
| Total | | | | | | 6980.7 | | | 33.7 | 809.9 |

Worst Case Formation Throughput (based on only 1 type of battery produced)

| Battery Type | Worst Case Cells On Charge in Jar Formation | Charging Cycle Time (hours) | Worst Case Cells/hr | Cells/Battery | Worst Case Batteries/hr | Worst Case Batteries/day |
|--|---|-----------------------------|---------------------|---------------|-------------------------|--------------------------|
| 2XLT-17 | 13780.0 | 194.32 | 70.91 | 2 | 35.5 | 851.0 |
| LCT1680 | 13780.0 | 292.7 | 47.08 | 1 | 47.1 | 1130.0 |
| KCR 11 | 13780.0 | 271.93 | 50.67 | 1 | 50.7 | 1216.2 |
| 3XDJ-9 | 13780.0 | 253 | 54.47 | 3 | 18.2 | 435.7 |
| MCT4000 | 13780.0 | 295.03 | 46.71 | 1 | 46.7 | 1121.0 |
| Worst Case Formation Throughput = | | | | | 50.7 | 1216.2 |

**Appendix A: Emissions Calculations
Emissions from Lead Oxide (PbO) Pneumatic Conveying**

**Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Plt ID: 045-00008
Reviewer: Nathan C. Bell**

The potential emissions of particulate from the pneumatic conveying of lead oxide to the silos and the mixing weigh hopper after integral controls are estimated using AP-42 Table 11.12-2 emission factors for the controlled truck unloading of cement supplement to elevated storage silo (pneumatic).

| Lead Oxide Powder Type | Molecular Weight (lbs/lb-mole) | Lead Content of Powder (% Pb by weight) |
|--|--------------------------------|---|
| Positive Lead Oxide (Red Lead Oxide) (Pb3O4) | 685.5976 | 90.67% |
| Negative Lead Oxide (Grey Oxide) (75% PbO + 25%Pb) | 219.19955 | 94.53% |

| Controlled Emission Factor (lbs/ton)* | |
|---------------------------------------|------------|
| PM | PM10/PM2.5 |
| 0.0089 | 0.0049 |

Potential to Emit (PTE) of Particulate (PM/PM10/PM2.5) and Lead (Pb)

| Emission Unit | Maximum Lead Oxide Throughput (lbs/hr) | PTE of PM (after integral controls) (lbs/hr) | PTE of PM (after integral controls) (tons/yr) | PTE of PM10 (after integral controls) (tons/yr) | PTE of PM2.5 (after integral controls) (tons/yr) | Lead Content of Powder (% Pb by weight) | PTE of Lead (Pb) (after integral controls) (tons/yr) |
|--|--|--|---|---|--|---|--|
| Positive Lead Oxide Silos (EU 0300A) (Bin Vent 232) | 45,000 | 0.200 | 0.877 | 0.483 | 0.483 | 90.67% | 0.795 |
| Negative Lead Oxide Silos (EU 0300Bn) (Bin Vent 233) | 45,000 | 0.200 | 0.877 | 0.483 | 0.483 | 94.53% | 0.829 |
| Positive Lead Oxide Weigh Hopper (EU 0300C) controlled by a Tri Mer wet scrubber (Stack 231) | 6,000 | 0.027 | 0.117 | 0.064 | 0.064 | 90.67% | 0.106 |
| Negative Lead Oxide Weigh Hopper (EU 0300C) controlled by a Tri Mer wet scrubber (Stack 231) | 6,000 | 0.027 | 0.117 | 0.064 | 0.064 | 94.53% | 0.111 |
| Totals | | | 1.988 | 1.095 | 1.095 | | 1.841 |

Emissions of Particulate (PM/PM10/PM2.5) and Lead (Pb) After Formation Bottleneck

| Emission Unit | Bottleneck Lead Oxide Throughput (lbs/month) | Bottleneck PM Emissions (after integral controls) (tons/yr) | Bottleneck PM10 Emissions (after integral controls) (tons/yr) | Bottleneck PM2.5 Emissions (after integral controls) (tons/yr) | Lead Content of Powder (% Pb by weight) | Bottleneck PM Lead (Pb) Emissions (after integral controls) (tons/yr) |
|--|--|---|---|--|---|---|
| Positive Lead Oxide Silos (EU 0300A) (Bin Vent 232) | 1,191,581 | 0.032 | 0.018 | 0.018 | 90.67% | 0.029 |
| Negative Lead Oxide Silos (EU 0300Bn) (Bin Vent 233) | 973,728 | 0.026 | 0.014 | 0.014 | 94.53% | 0.025 |
| Positive Lead Oxide Weigh Hopper (EU 0300C) controlled by a Tri Mer wet scrubber (Stack 231) | 1,191,581 | 0.032 | 0.018 | 0.018 | 90.67% | 0.029 |
| Negative Lead Oxide Weigh Hopper (EU 0300C) controlled by a Tri Mer wet scrubber (Stack 231) | 973,728 | 0.026 | 0.014 | 0.014 | 94.53% | 0.025 |
| Totals | | 0.116 | 0.064 | 0.064 | | 0.107 |

Methodology

* Emission Factors from AP-42 Table 11.12-2 for controlled truck unloading of cement supplement to elevated storage silo (pneumatic)

PTE of PM (lbs/hour) = [Maximum Lead Oxide Throughput (lbs lead oxide/hour)] * [Emission Factor (lbs PM/ton of lead oxide)] / (2000 lbs lead oxide/ton lead oxide)

PTE of PM/PM10/PM2.5 (tons/year) = [Maximum Lead Oxide Throughput (lbs lead oxide/hour)] * [Emission Factor (lbs PM/ton of lead oxide)] * [8760 hours/year] / [(2000 lbs lead oxide/ton lead oxide) * (2000 lbs PM/ton PM)]

PTE of Lead (Pb) (tons/year) = [PTE of PM (tons/year)] * [Lead Content (% Pb by weight)]

Bottleneck PM/PM10/PM2.5 Emissions (tons/year) = [Bottleneck Lead Oxide Throughput (lbs lead oxide/month)] * [Emission Factor (lbs PM/ton of lead oxide)] * [12 months/year] / [(2000 lbs/ton lead oxide) * (2000 lbs/ton PM)]

Bottleneck Lead (Pb) Emissions (tons/year) = [Bottleneck PM Emissions (tons/year)] * [Lead Content (% Pb by weight)]

Appendix A: Emissions Calculations
Battery Manufacturing Processes - PM/PM10/PM2.5 Emissions

Company Name: **C&D Technologies, Inc.**
 Address City IN Zip: **200 West Main Street, Attica, Indiana 47918**
 Permit Number: **045-19413-00008**
 PIT ID: **045-00008**
 Reviewer: **Nathan C. Bell**

To calculate particulate (PM/PM10/PM2.5) emissions from the battery manufacturing processes, AP-42 Chapter 12.15 (1/95) emission factors were utilized. Based on AP-42, the calculations were performed assuming that the batteries produced at this source were an average "AP-42 Battery" (battery equivalent, Beq) containing an average of about 20 lbs of lead, of which about 44.37% is present in the lead grids, 5.05% is present in the lead connectors/small parts, and 50.57% is present in the lead oxide paste and expander.

| Process | Comment | EU # | Stack/ Vent ID | Description | Maximum Capacity (Pb lbs/hr) | %Pb of Total Battery Pb | Maximum Capacity of Equivalent AP-42 Batteries (Beq/hr) | AP-42 Emission Factor* (lb PM/Beq) | Estimated Percent of AP-42 Process Emission Factor | Maximum AP-42 Emissions (uncontrolled) (tons/year) | % Control Efficiency | Maximum AP-42 Emissions (controlled) (tons/year) | Bottleneck Production (tons/month) | Bottleneck Equivalent AP-42 Battery Production (Beq/month) | Bottleneck Emissions (uncontrolled) (tons/year) | Bottleneck Emissions (controlled) (tons/year) | Equivalent NSPS Limited PTE of Lead (Pb) (tons/year) | Equivalent NSPS Limited PTE of PM** (tons/year) | Minor Source of HAPs Limit (lbs/hr) | Equivalent Limited PTE of PM** (tons/year) | PSD Minor Source of PM Limit (tons/year) | PSD Minor Source of PM Limit (tons/year) | FESOP Minor Source of PM10 Limit (lbs/hr) | FESOP Minor Source of PM10 Limit (tons/year) | Maximum AP-42 Emissions (uncontrolled) (lbs/hour) | Subject to 326 IAC 6-3-2 | Process Weight Rate (lbs/hr) | 326 IAC 6-3-2 Allowable Particulate Emission Rate (lbs/hour) | Maximum AP-42 Emissions (controlled) (lbs/hour) | | |
|--|----------------|---------|----------------|---------------------------------|------------------------------|-------------------------|---|------------------------------------|--|--|----------------------|--|------------------------------------|--|---|---|--|---|-------------------------------------|--|--|--|---|--|---|--------------------------|------------------------------|--|---|---------|----|
| TOTAL EMISSION FROM SMALL PARTS CASTING PROCESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Small Parts Casting | | 0100A/B | 195 | Small Parts Casting | 1446 | 5.05 | 1432 | 0.00019 | 100.0 | 1.191 | 99.00 | 1.26-02 | 214851 | 212724 | 0.243 | 2.43E-03 | 0.158 | 1.378 | 0.347 | 0.302 | 0.13601 | 0.5957 | 0.05440 | 0.2383 | | 0.2720 | No | NA | NA | NA | |
| TOTAL EMISSION FROM GRID CASTING PROCESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Grid Casting | | 0200A | 196 | Grid Casting | 5197 | 44.37 | 586 | 0.00313 | 99.80 | 8.021 | 99.00 | 0.080 | 1868893 | 212631 | 3.969 | 3.95E-02 | 0.197 | 1.723 | 0.434 | 3.790 | 0.91562 | 4.0104 | 0.36625 | 1.6042 | | 1.8312 | Yes | 5197 | 7.77 | 0.01831 | |
| | | 0200B | 226 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00313 | 0.1 | 0.003 | 0 | 0.003 | 471721 | 53158 | 0.001 | 9.98E-04 | 0.025 | 0.215 | 0.054 | 0.473 | 0.02510 | 0.10999 | 0.01004 | 0.0440 | | 0.0007 | No | NA | NA | NA | |
| | | 0200C | 227 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00313 | 0.1 | 0.003 | 0 | 0.003 | 471721 | 53158 | 0.001 | 9.98E-04 | 0.025 | 0.215 | 0.054 | 0.473 | 0.02510 | 0.10999 | 0.01004 | 0.0440 | | 0.0007 | No | NA | NA | NA | |
| | | 0200D | 228 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00313 | 0.1 | 0.003 | 0 | 0.003 | 471721 | 53158 | 0.001 | 9.98E-04 | 0.025 | 0.215 | 0.054 | 0.473 | 0.02510 | 0.10999 | 0.01004 | 0.0440 | | 0.0007 | No | NA | NA | NA | |
| TOTAL EMISSION FROM PASTING PROCESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pasting | | 0300C | 231 | Paste Mixing | 6268 | 50.57 | 620 | 0.00432 | 85.0 | 9.967 | 99.90 | 0.010 | 2150545 | 212631 | 4.685 | 4.68E-03 | 0.069 | 0.602 | 0.152 | 1.325 | 1.13783 | 4.9837 | 0.45513 | 1.9355 | | 2.2757 | Yes | 6268 | 8.81 | 0.00228 | |
| | | 0300D | 159 | Expander Manufacturing | 312 | 5.37 | 291 | 0.00432 | 4.78 | 0.283 | 99.50 | 0.001 | 227760 | 212667 | 0.263 | 1.31E-03 | 0.121 | 1.061 | 0.267 | 2.334 | 0.02999 | 0.1314 | 0.01200 | 0.0525 | | 0.0600 | No | NA | NA | NA | |
| | | 0300E | 230 | Pasting | 17264 | 94.95 | 909 | 0.00432 | 10.0 | 1.720 | 98.00 | 0.034 | 4037554 | 212631 | 0.551 | 1.10E-02 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.3827 | No | NA | NA | NA |
| | | PA025 | 249 | Flash Dry Oven | 8632 | 94.95 | 455 | 0.00432 | 0.20 | 0.017 | 0 | 0.017 | 2018927 | 106315 | 0.006 | 5.51E-03 | 0.015 | 0.129 | 0.032 | 0.284 | 0.13746 | 0.6021 | 0.05498 | 0.2408 | | 0.0039 | No | NA | NA | NA | |
| | | PA026 | 250 | Flash Dry Oven | 8632 | 94.95 | 455 | 0.00432 | 0.20 | 0.017 | 0 | 0.017 | 2018927 | 106315 | 0.006 | 5.51E-03 | 0.015 | 0.129 | 0.032 | 0.284 | 0.13746 | 0.6021 | 0.05498 | 0.2408 | | 0.0039 | No | NA | NA | NA | |
| | | 0300F | 26 | Humidity Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.007 | 0.061 | 0.015 | 0.133 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300G | 27 | Humidity Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.007 | 0.061 | 0.015 | 0.133 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300H | 28 | Humidity Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.007 | 0.061 | 0.015 | 0.133 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300I | 29 | Humidity Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.007 | 0.061 | 0.015 | 0.133 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300J | 179 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300K | 180 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300L | 193 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0300M | 194 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0500E | 234 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 383136 | 20176 | 1.0E-04 | 1.05E-04 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0500F | 235 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 383136 | 20176 | 1.0E-04 | 1.05E-04 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0500G | 237 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 383136 | 20176 | 1.0E-04 | 1.05E-04 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | 0500H | 238 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 383136 | 20176 | 1.0E-04 | 1.05E-04 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | BDO-7 | 23 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | BDO-8 | 24 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | BDO-9 | 165 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| | | BDO-10 | 25 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00432 | 0.02 | 4.8E-04 | 0 | 0.000 | 313872 | 16528 | 8.8E-05 | 8.57E-05 | 0.005 | 0.040 | 0.010 | 0.087 | 0.00382 | 0.0167 | 0.00153 | 0.0067 | | 0.0001 | No | NA | NA | NA | |
| TOTAL EMISSION FROM PASTING/MIXING PROCESS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3FO Process | Combined Stack | PA027 | 230 | Pasted Plate Processing Machine | 17264 | 94.95 | 909 | 0.009260 | 40.0 | 147.490 | 98.00 | 0.298 | 4037584 | 212631 | 47.255 | 9.45E-01 | 0.625 | 5.467 | 1.376 | 10.027 | 16.8372 | 73.7448 | 6.73469 | 29.4979 | | 33.6734 | Yes | 17264 | 17.38 | 0.67347 | |
| | Stack | PA028 | 230 | Pasted Plate Processing Machine | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0700B | 152 | Plate Processing 2 | 4000 | 94.95 | 211 | 0.09260 | 30.0 | 25.630 | 99.00 | 0.256 | 1010672 | 53221 | 8.871 | 8.87E-02 | 0.328 | 2.868 | 0.722 | 6.309 | 9.2575 | 12.8148 | 1.17030 | 5.1259 | | 5.8515 | Yes | 4000 | 6.52 | 0.05852 | |
| | | 0700C | 151 | Plate Processing 3 | 4000 | 94.95 | 211 | 0.09260 | 30.0 | 25.630 | 99.00 | 0.256 | 1010672 | 53221 | 8.871 | 8.87E-02 | 0.328 | 2.868 | 0.722 | 6.309 | 9.2575 | 12.8148 | 1.17030 | 5.1259 | | 5.8515 | Yes | 4000 | 6.52 | 0.05852 | |
| | Combined Stack | 0700E | 127 | Plate Processing 4a | 300 | 94.95 | 16 | 0.09260 | 30.0 | 1.922 | 99.00 | 0.019 | 55573 | 2926 | 0.488 | 4.88E-03 | 0.213 | 1.864 | 0.469 | 4.101 | | | | | | 0.4389 | No | NA | NA | NA | |
| | | 0800D | 127 | MP Battery Assembly | 2404 | 100 | 120 | 0.09260 | 29.5 | 14.382 | 99.00 | 0.144 | 67122 | 3356 | 0.550 | 5.50E-03 | 0.000 | 0.000 | 0.000 | 0.000 | 1.64175 | 7.1909 | 0.65670 | 2.8763 | | 3.2835 | Yes | 2404 | 4.64 | 0.03284 | |
| | Combined Stack | 0700F | 247 | Plate Processing 5 | 8473 | 94.95 | 446 | 0.09260 | 30.0 | 54.290 | 99.00 | 0.543 | 3809664 | 200614 | 33.438 | 3.34E-01 | 0.820 | 7.170 | 1.805 | 15.773 | | | | | | 12.9949 | Yes | 8473 | 10.79 | 0.12395 | |
| | | 0800E | 247 | JCD Assembly | 174 | 100 | 9 | 0.09260 | 29.5 | 1.041 | 99.00 | 0.010 | 56550 | 2828 | 0.463 | 4.63E-03 | 0.000 | 0.000 | 0.000 | 0.000 | 6.19747 | 27.1449 | 2.47899 | 10.8590 | | 0.2377 | No | NA | NA | NA | |
| | | 0800A | 140 | L Battery Assembly 1 | 1444 | 100 | 72 | 0.09260 | 29.5 | 8.639 | 99.00 | 0.086 | 548720 | 27436 | 4.497 | 4.50E-02 | 0.171 | 1.491 | 0.375 | 3.281 | 0.98614 | 4.3193 | 0.39446 | 1.7277 | | 1.9723 | Yes | 1444 | 3.30 | 0.01972 | |
| | | 0800B | 166 | L Battery Assembly 2 | 3400 | 100 | 170 | 0.09260 | 29.5 | 20.340 | 99.00 | 0.203 | 822700 | 41135 | 6.742 | 6.74E-02 | 0.171 | 1.491 | | | | | | | | | | | | | |

**Appendix A: Emissions Calculations
Battery Manufacturing Processes - Lead (Pb) Emissions**

Company Name: **C&D Technologies, Inc**
Address City IN Zip: **200 West Main Street, Attica, Indiana 47914**
Permit Number: **045-19413-00008**
Plt ID: **045-00008**
Reviewer: **Nathan C. Bell**

To calculate lead (Pb) emissions from the battery manufacturing processes, AP-42 Chapter 12.15 (1/95) emission factors were utilized. Based on AP-42, the calculations were performed assuming that the batteries produced at this source were an average "AP-42 Battery" (battery equivalent, Beq) containing an average of about 20 lbs of lead of which about 44.37% is present in the lead grids, 5.05% is present in the lead connectors/small parts, and 50.57% is present in the lead oxide paste and expander.

| Process | Comment | EU # | Stack/ Vent ID | Description | Maximum Capacity (Pb lbs/hr) | %Pb of Total Pb (Beq/hr) | Maximum Capacity of Equivalent AP-42 Batteries (Beq/hr) | AP-42 Emission Factor* (lb Pb/Beq) | Estimated Percent of AP-42 Process Emission Factor** | Maximum AP-42 Emissions (uncontrolled) (tons/year) | % Control Efficiency** | Maximum AP-42 Emissions (controlled) (tons/year) | Outlet air flow rate (actm) | Maximum AP-42 Outlet Grain Loading (uncontrolled) (grains/cu ft) | Maximum AP-42 Outlet Grain Loading (controlled) (grains/cu ft) | Bottleneck Production Throughput (lbs/month) | Bottleneck Equivalent AP-42 Battery Production (Beq/month) | Bottleneck Emissions (uncontrolled) (tons/year) | Bottleneck Emissions (controlled) (tons/year) | NSPS Limited Grain Loading (grains/cu ft) | Equivalent NSPS Limited PTE of Lead (Pb) (tons/year) | Minor Source of HAPs Limit (lbs/hr) | Minor Source of HAPs Limit (tons/year) | |
|--|----------------|---------|----------------------|---------------------------------|------------------------------------|-----------------------------------|--|---|---|--|---------------------------|--|-----------------------------------|--|--|---|---|--|--|--|--|--|---|--|
| Small Parts Casting | | 0100A/B | 195 | Small Parts Casting | 1446 | 5.05 | 1432 | 0.00010 | 100.0 | 0.627 | 99.00 | 6.3E-03 | 24000 | 7.0E-04 | 7.0E-06 | 214851 | 212724 | 0.128 | 1.3E-03 | 0.000175 | 0.158 | 0.0792 | 0.3469 | |
| TOTAL EMISSION FROM SMALL PARTS CASTING PROCESS | | | | | 0.627 | | | | | | | | | | 6.3E-03 | | 0.128 | | 1.3E-03 | | 0.158 | | | |
| Grid Casting | | 0200A | 196 | Grid Casting | 5197 | 44.37 | 586 | 0.00090 | 99.90 | 2.306 | 99.00 | 0.023 | 30000 | 2.0E-03 | 2.0E-05 | 1886883 | 212631 | 1.147 | 1.1E-02 | 0.000175 | 0.197 | 0.0990 | 0.4336 | |
| | | 0200B | 226 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00090 | 0.1 | 9.0E-04 | 0 | 9.0E-04 | 1500 | 1.6E-05 | 1.6E-05 | 471721 | 53158 | 2.9E-04 | 2.9E-04 | 0.000437 | 0.025 | 0.0124 | 0.0541 | |
| | | 0200C | 227 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00090 | 0.1 | 9.0E-04 | 0 | 9.0E-04 | 1500 | 1.6E-05 | 1.6E-05 | 471721 | 53158 | 2.9E-04 | 2.9E-04 | 0.000437 | 0.025 | 0.0124 | 0.0541 | |
| | | 0200D | 228 | Grid Curing Oven | 2033 | 44.37 | 229 | 0.00090 | 0.1 | 9.0E-04 | 0 | 9.0E-04 | 1500 | 1.6E-05 | 1.6E-05 | 471721 | 53158 | 2.9E-04 | 2.9E-04 | 0.000437 | 0.025 | 0.0124 | 0.0541 | |
| TOTAL EMISSION FROM GRID CASTING PROCESS | | | | | 2.309 | | | | | | | | | | 0.026 | | 1.148 | | 0.012 | | 0.271 | | | |
| Pasting | | 0300C | 231 | Paste Mixing | 6268 | 50.57 | 620 | 0.00249 | 85.0 | 5.745 | 99.90 | 0.006 | 4200 | 3.6E-02 | 3.6E-05 | 2150945 | 212631 | 2.700 | 2.7E-03 | 0.000437 | 0.969 | 0.0346 | 0.1516 | |
| | | 0300D | 159 | Expander Manufacturing | 312 | 5.37 | 291 | 0.00249 | 4.78 | 0.151 | 99.50 | 0.001 | 7400 | 6.5E-04 | 2.7E-06 | 227760 | 212667 | 0.151 | 7.6E-04 | 0.000437 | 0.121 | 0.0610 | 0.2671 | |
| | | 0300E | 230 | Pasting | 17264 | 94.95 | 909 | 0.00249 | 10.0 | 0.991 | 98.00 | 0.020 | 38125 | 6.9E-04 | 1.4E-05 | 4037854 | 212631 | 0.318 | 6.4E-03 | combined stack with Pasted Plate Processing Machines | | | | |
| | | PA025 | 249 | Flash Dry Oven | 8632 | 94.95 | 455 | 0.00249 | 0.20 | 9.9E-03 | 0 | 9.9E-03 | 900 | 2.9E-04 | 2.9E-04 | 2018927 | 106315 | 0.003 | 3.2E-03 | 0.000437 | 0.015 | 0.0074 | 0.0325 | |
| | | PA026 | 250 | Flash Dry Oven | 8632 | 94.95 | 455 | 0.00249 | 0.20 | 9.9E-03 | 0 | 9.9E-03 | 900 | 2.9E-04 | 2.9E-04 | 2018927 | 106315 | 0.003 | 3.2E-03 | 0.000437 | 0.015 | 0.0074 | 0.0325 | |
| | | 0300F | 26 | Humidity Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 422 | 1.7E-05 | 1.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.007 | 0.0035 | 0.0152 | |
| | | 0300G | 27 | Humidity Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 422 | 1.7E-05 | 1.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.007 | 0.0035 | 0.0152 | |
| | | 0300H | 28 | Humidity Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 422 | 1.7E-05 | 1.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.007 | 0.0035 | 0.0152 | |
| | | 0300I | 29 | Humidity Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 422 | 1.7E-05 | 1.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.007 | 0.0035 | 0.0152 | |
| | | 0300J | 179 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0300K | 180 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0300L | 193 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0300M | 194 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0500E | 234 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 383136 | 20176 | 6.0E-05 | 6.0E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0500F | 235 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 383136 | 20176 | 6.0E-05 | 6.0E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0500G | 237 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 383136 | 20176 | 6.0E-05 | 6.0E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | 0500H | 238 | OSI Universal Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 383136 | 20176 | 6.0E-05 | 6.0E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | BD0-7 | 23 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | BD0-8 | 24 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | BD0-9 | 165 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| | | BD0-10 | 25 | Bone Dry Curing Oven | 2400 | 94.95 | 126 | 0.00249 | 0.02 | 2.8E-04 | 0 | 2.8E-04 | 276 | 2.7E-05 | 2.7E-05 | 313872 | 16528 | 4.9E-05 | 4.9E-05 | 0.000437 | 0.005 | 0.0023 | 0.0100 | |
| TOTAL EMISSION FROM PASTING/MIXING PROCESS | | | | | 6.912 | | | | | | | | | | 0.051 | | 3.176 | | 0.017 | | 0.302 | | | |
| SPO Process | Combined Stack | PA027 | 230 | Pasted Plate Processing Machine | 17264 | 94.95 | 909 | 0.0146 | 40.0 | 23.254 | 99.00 | 0.465 | 38125 | 1.6E-02 | 3.2E-04 | 4037854 | 212631 | 7.451 | 1.5E-01 | 0.000437 | 0.625 | 0.3142 | 1.3761 | |
| | Combined Stack | PA028 | 230 | Pasted Plate Processing Machine | 17264 | 94.95 | 909 | 0.0146 | 40.0 | 23.254 | 99.00 | 0.465 | 38125 | 1.6E-02 | 3.2E-04 | 4037854 | 212631 | 7.451 | 1.5E-01 | 0.000437 | 0.625 | 0.3142 | 1.3761 | |
| | Combined Stack | 0700B | 152 | Plate Processing 2 | 4000 | 94.95 | 211 | 0.0146 | 30.0 | 4.041 | 99.00 | 0.040 | 20000 | 5.4E-03 | 5.4E-05 | 1010672 | 53221 | 1.399 | 1.4E-02 | 0.000437 | 0.328 | 0.1648 | 0.7219 | |
| | Combined Stack | 0700C | 151 | Plate Processing 3 | 4000 | 94.95 | 211 | 0.0146 | 30.0 | 4.041 | 99.00 | 0.040 | 20000 | 5.4E-03 | 5.4E-05 | 1010672 | 53221 | 1.399 | 1.4E-02 | 0.000437 | 0.328 | 0.1648 | 0.7219 | |
| | Combined Stack | 0700E | 127 | Plate Processing 4a | 300 | 94.95 | 16 | 0.0146 | 30.0 | 0.303 | 99.00 | 3.0E-03 | 13000 | 6.2E-04 | 6.2E-06 | 55573 | 2926 | 0.077 | 7.7E-04 | 0.000437 | 0.213 | 0.1071 | 0.4692 | |
| | Combined Stack | 0800D | 240 | MP Battery Assembly | 2404 | 100 | 120 | 0.0146 | 29.5 | 2.268 | 99.00 | 0.023 | 13000 | 4.6E-03 | 4.6E-05 | 67122 | 3356 | 0.087 | 8.7E-04 | 0.000437 | 0.820 | 0.4120 | 1.8047 | |
| | Combined Stack | 0700F | 247 | Plate Processing 5 | 8473 | 94.95 | 446 | 0.0146 | 30.0 | 8.660 | 99.00 | 0.086 | 50000 | 4.6E-03 | 4.6E-05 | 3809664 | 200614 | 5.272 | 5.3E-02 | 0.000437 | 0.820 | 0.4120 | 1.8047 | |
| | Combined Stack | 0800E | 174 | JCD Assembly | 174 | 100 | 9 | 0.0146 | 29.5 | 0.146 | 99.00 | 0.002 | 5000 | 8.7E-05 | 8.7E-07 | 56550 | 2828 | 0.073 | 7.3E-04 | 0.000437 | 0.410 | 0.2060 | 0.9023 | |
| | Combined Stack | 0800A | 140 | L Battery Assembly 1 | 1444 | 100 | 72 | 0.0146 | 29.5 | 1.362 | 99.00 | 0.014 | 10400 | 3.5E-03 | 3.5E-05 | 548720 | 27436 | 0.709 | 7.1E-03 | 0.000437 | 0.171 | 0.0857 | 0.3754 | |
| | Combined Stack | 0800B | 166 | L Battery Assembly 2 | 3400 | 100 | 170 | 0.0146 | 29.5 | 3.207 | 99.00 | 0.032 | 10400 | 8.2E-03 | 8.2E-05 | 822700 | 41135 | 1.063 | 1.1E-02 | 0.000437 | 0.171 | 0.0857 | 0.3754 | |
| | Combined Stack | 0800C | 142 | L Battery Assembly 3 | 2165 | 100 | 108 | 0.0146 | 29.5 | 2.042 | 99.00 | 0.020 | 8600 | 6.3E-03 | 6.3E-05 | 822700 | 41135 | 1.063 | 1.1E-02 | 0.000437 | 0.141 | 0.0709 | 0.3104 | |
| | Combined Stack | 0800F | 188 | MCT Battery Assembly | 4000 | 100 | 200 | 0.0146 | 29.5 | 3.773 | 99.00 | 0.038 | 25000 | 4.0E-03 | 4.0E-05 | 1652300 | 82615 | 2.135 | 2.1E-02 | 0.000437 | 0.410 | 0.2060 | 0.9023 | |
| | Combined Stack | 0800G | 167 | L-cell Cover Adhesive Station | NA | NA | NA | voc | NA | NA | NA | NA | 3000 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| | Combined Stack | 0800H | 141 | Repair | 600 | 100 | 30 | 0.0146 | 0.5 | 0.010 | 99.00 | 0.005 | 2400 | 1.1E-04 | 1.1E-06 | 153600 | 7680 | 3.4E-03 | 3.4E-05 | 0.000437 | 0.039 | 0.0198 | 0.0866 | |
| | Combined Stack | 0800K | 244 | LCT 1700 Battery Assembly | 1302 | 100 | 65 | 0.0146 | 29.5 | 1.228 | 99.00 | 0.012 | 22000 | 1.5E-03 | 1.5E-05 | 282100 | 14105 | 0.365 | 3.6E-03 | 0.000437 | 0.361 | 0.1813 | 0.7941 | |
| | Combined Stack | Insig | 246 | LCT 1700 Battery Curing Ovens | 1302 | 100 | 65 | 0.0146 | 0.02 | 0.001 | 0 | 0.001 | 1200 | 1.8E-05 | 1.8E-05 | 282100 | 14105 | | | | | | | |

**Appendix A: Emissions Calculations
Battery Manufacturing Processes
Antimony (Sb)**

**Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Pit ID: 045-00008
Reviewer: Nathan C. Bell**

| Process | EU # | Stack/ Vent ID | Description | Lead (Pb) Emission Summary | | | | Antimony (Sb) Emission Summary | | | | |
|---------------------|---------|----------------------|---------------------|---|---|---|--|---|---|--|--|---------------------------------|
| | | | | Maximum AP-42 Pb Emissions (uncontrolled) (tons/year) | Bottleneck Pb Emissions (uncontrolled) (tons/year) | Bottleneck Emissions Pb (controlled) (tons/year) | NSPS Limited PTE of Pb (tons/year) | Antimony (Sb) Content in Lead (lbs Sb/ton Pb) | Maximum Emissions (uncontrolled) (tons/year) | Bottleneck Emissions (uncontrolled) (tons/year) | Bottleneck Emissions (controlled) (tons/year) | NSPS Limited PTE (tons/year) |
| Small Parts Casting | 0100A/B | 195 | Small Parts Casting | 0.627 | 0.128 | 1.3E-03 | 0.158 | 26.8 | 0.0084 | 0.0017 | 1.71E-05 | 0.0021 |
| Grid Casting | 0200A | 196 | Grid Casting | 2.306 | 1.147 | 1.1E-02 | 0.197 | 14.0 | 0.0161 | 0.0080 | 8.03E-05 | 0.0014 |
| Totals | | | | | | | | 40.8 | 0.0245 | 0.0097 | 9.74E-05 | 0.0035 |

METHODOLOGY

PTE of Antimony (Sb) (tons/year) = [PTE of Lead (Pb) (tons/year)] * [Antimony (Sb) Content in Lead (lbs Sb/ton Pb)] * [1 ton/2000 lbs]

**Appendix A: Emissions Calculations
Adhesive and Degreasing Operations**

**Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Plt ID: 045-00008
Reviewer: Nathan C. Bell**

Volatile Organic Comounds (VOC)

| Operation and Material | Density (lb/gal) | Weight % Volatile (H2O & Organics) | Weight % Water + Non-VOCs | Weight % Solids | Weight % VOCs | Water + Non-VOCs | Volume % Solids | Maximum Usage (gal/year) | Maximum Usage (lb/hr) | VOC Content (lbs/gal) | PTE VOC (lb/hr) | PTE VOC (lb/day) | PTE VOC (tons/yr) |
|---|------------------|------------------------------------|---------------------------|-----------------|---------------|------------------|-----------------|--------------------------|-----------------------|-----------------------|-----------------|------------------|-------------------|
| Cover Adhesive (EU 0800D, E, F, G, and LCT 1700)* | 9.36 | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 0.0% | 95.05 | 0.102 | 0 | 0 | 0 | 0 |
| Polyurethane Battery Topping (Misc) (Crystal Clean) | 8.20 | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 360.0 | 0.337 | 8.20 | 0.337 | 8.088 | 1.476 |
| Degreasing Operations (Crystal Clean) | 8.20 | 100.0% | 0.0% | 0.0% | 100.0% | 0.0% | 0.0% | 145.0 | 0.136 | 8.20 | 0.136 | 3.258 | 0.595 |
| Totals | | | | | | | | | | | 0.47 | 11.35 | 2.07 |

Hazardous Air Pollutants (HAPs)

| Operation and Material | Density (lb/gal) | Maximum Usage (gal/year) | Weight % Toluene** | PTE Toluene (tons/yr) |
|---|------------------|--------------------------|--------------------|-----------------------|
| Polyurethane Battery Topping (Misc) (Crystal Clean) | 8.20 | 360.0 | 0.10% | 1.5E-03 |
| Degreasing Operations (Crystal Clean) | 8.20 | 145.0 | 0.10% | 5.9E-04 |
| Totals | | | | 2.1E-03 |

*The cover adhesive used in EU 0800D, E, F, G, and LCT 1700 is a two part acrylic adhesive (methyl methacrylate monomer initiator (Part A) and N,N-Dimethylaniline accelerator/curing agent (Part B)). When Part A and Part B are mixed together, N,N-Dimethylaniline (DMA) initiates the polymerization of methyl methacrylate (MMA) and the components react quickly to form acrylic adhesive, with minimal emission of VOCs.

**Pursuant to 40 CFR 63, it is assumed that the aliphatic distillate in Crystal Clean has a typical organic HAP composition (% by mass) of 0.1% Toluene.

METHODOLOGY

Maximum Usage (lbs/hr) = [Maximum Usage (gal/year)] * [Density (lb/gal)] / [8760 hour/year]

VOC Content (lbs/gal) = [Density (lb/gal)] * [Weight % VOCs]

PTE of VOCs (lbs/hour) = [Maximum Usage (lbs/hr)] * [Weight % VOCs]

PTE of VOCs (lbs/day) = [PTE of VOC (lbs/hr)] * [24 hours/day]

PTE of VOCs (tons/year) = [PTE of VOCs (lbs/day)] * [365 days/yr] * [1 ton/2000 lbs]

PTE of HAPS (tons/yr) = [Density (lb/gal)] * [Maximum Usage (gal/year)] * [Weight % HAP] * [1 ton/2000 lbs]

**Appendix A: Emissions Calculations
Ovens, Heaters, and Boilers
Natural Gas Combustion Only
MM BTU/HR <100**

**Company Name: C&D Technologies, Inc.
Address City IN Zip: 200 West Main Street, Attica, Indiana 47918
Permit Number: 045-19413-00008
Plt ID: 045-00008
Reviewer: Nathan C. Bell**

| Emission Unit | Number of Units | Unit Heat Input Capacity MMBtu/hr | Combined Total Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr | Pollutant | | | | | | |
|---|-----------------|-----------------------------------|---|------------------------------|----------------------------|-------------|-------------|--------------|-------------|--------------|-----|
| | | | | | PM* | PM10* | SO2 | NOx** | VOC | CO | |
| | | | | | Emission Factor (lb/MMCF) | | | | | | 1.9 |
| | | | | | Potential Emission tons/yr | | | | | | |
| | | | | | PM* | PM10* | SO2 | NOx** | VOC | CO | |
| Grid Curing Ovens (EU 0200B, C, and D) (Stacks 226 to 228) | 3 | 0.250 | 0.750 | 6.57 | 6.2E-03 | 0.025 | 2.0E-03 | 0.329 | 0.018 | 0.276 | |
| Flash Dry Ovens (PA025 and PA026) (Stacks 249 and 250) | 2 | 1.600 | 3.200 | 28.03 | 2.7E-02 | 0.107 | 8.4E-03 | 1.402 | 0.077 | 1.177 | |
| Humidity Ovens (EU 0300F, G, H and I) (Stacks 26, 27, 28, and 29) | 4 | 0.840 | 3.360 | 29.43 | 2.8E-02 | 0.112 | 8.8E-03 | 1.472 | 0.081 | 1.236 | |
| Universal Curing Ovens (EU 0300J, K, L and M) (Stacks 179, 180, 193, and 194) | 4 | 0.840 | 3.360 | 29.43 | 2.8E-02 | 0.112 | 8.8E-03 | 1.472 | 0.081 | 1.236 | |
| OSI Universal Ovens (EU 0500E, F, G, and H) (Stacks 234, 235, 237, and 238) | 4 | 0.840 | 3.360 | 29.43 | 2.8E-02 | 0.112 | 8.8E-03 | 1.472 | 0.081 | 1.236 | |
| Bone Dry Curing Ovens (BDO-1, -2, -4, and -4) (Stacks 23, 24, 165 and 25) | 4 | 0.050 | 0.200 | 1.75 | 1.7E-03 | 0.007 | 5.3E-04 | 0.088 | 0.005 | 0.074 | |
| Miscellaneous combustion sources | NA | NA | 54.360 | 476.19 | 4.5E-01 | 1.810 | 1.4E-01 | 23.810 | 1.310 | 20.000 | |
| Pasting Boiler (Stack 163) | 1 | 0.690 | 0.690 | 6.04 | 5.7E-03 | 0.023 | 1.8E-03 | 0.302 | 0.017 | 0.254 | |
| Pasting Boiler (Stack 164) | 1 | 1.050 | 1.050 | 9.20 | 8.7E-03 | 0.035 | 2.8E-03 | 0.460 | 0.025 | 0.386 | |
| Casting Boiler (Stack 236) | 1 | 0.340 | 0.340 | 2.98 | 2.8E-03 | 0.011 | 8.9E-04 | 0.149 | 0.008 | 0.125 | |
| Pasting Boiler (Stack 239) | 1 | 0.340 | 0.340 | 2.98 | 2.8E-03 | 0.011 | 8.9E-04 | 0.149 | 0.008 | 0.125 | |
| LCT Assembly Rapid Air Heater (Stack 245) | 1 | 1.650 | 1.650 | 14.45 | 1.4E-02 | 0.055 | 4.3E-03 | 0.723 | 0.040 | 0.607 | |
| Plate Storage Area Universal Oven Boiler (Stack 225) | 1 | 0.340 | 0.340 | 2.98 | 2.8E-03 | 0.011 | 8.9E-04 | 0.149 | 0.008 | 0.125 | |
| Charging Rapid Air Heater (Stack 243) | 1 | 0.750 | 0.750 | 6.57 | 6.2E-03 | 0.025 | 2.0E-03 | 0.329 | 0.018 | 0.276 | |
| Totals | 28 | | 73.75 | | 0.61 | 2.45 | 0.19 | 32.30 | 1.78 | 27.13 | |

| Emission Unit | Pollutant | | | | | | | | | | |
|---|---------------------------|----------------|----------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
| | Benzene | DCB | Formaldehyde | Hexane | Toluene | Pb | Cd | Cr | Mn | Ni | |
| | Emission Factor (lb/MMCF) | | | | | | | | | | |
| Potential Emission tons/yr | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Grid Curing Ovens (EU 0200B, C, and D) (Stacks 226 to 228) | 6.9E-06 | 3.9E-06 | 2.5E-04 | 5.9E-03 | 1.1E-05 | 1.6E-06 | 3.6E-06 | 4.6E-06 | 1.2E-06 | 6.9E-06 | |
| Flash Dry Ovens (PA025 and PA026) (Stacks 249 and 250) | 2.9E-05 | 1.7E-05 | 1.1E-03 | 2.5E-02 | 4.8E-05 | 7.0E-06 | 1.5E-05 | 2.0E-05 | 5.3E-06 | 2.9E-05 | |
| Humidity Ovens (EU 0300F, G, H and I) (Stacks 26, 27, 28, and 29) | 3.1E-05 | 1.8E-05 | 1.1E-03 | 2.6E-02 | 5.0E-05 | 7.4E-06 | 1.6E-05 | 2.1E-05 | 5.6E-06 | 3.1E-05 | |
| Universal Curing Ovens (EU 0300J, K, L and M) (Stacks 179, 180, 193, and 194) | 3.1E-05 | 1.8E-05 | 1.1E-03 | 2.6E-02 | 5.0E-05 | 7.4E-06 | 1.6E-05 | 2.1E-05 | 5.6E-06 | 3.1E-05 | |
| OSI Universal Ovens (EU 0500E, F, G, and H) (Stacks 234, 235, 237, and 238) | 3.1E-05 | 1.8E-05 | 1.1E-03 | 2.6E-02 | 5.0E-05 | 7.4E-06 | 1.6E-05 | 2.1E-05 | 5.6E-06 | 3.1E-05 | |
| Bone Dry Curing Ovens (BDO-1, -2, -4, and -4) (Stacks 23, 24, 165 and 25) | 1.8E-06 | 1.1E-06 | 6.6E-05 | 1.6E-03 | 3.0E-06 | 4.4E-07 | 9.6E-07 | 1.2E-06 | 3.3E-07 | 1.8E-06 | |
| Miscellaneous combustion sources | 5.0E-04 | 2.9E-04 | 1.8E-02 | 4.3E-01 | 8.1E-04 | 1.2E-04 | 2.6E-04 | 3.3E-04 | 9.0E-05 | 5.0E-04 | |
| Pasting Boiler (Stack 163) | 6.3E-06 | 3.6E-06 | 2.3E-04 | 5.4E-03 | 1.0E-05 | 1.5E-06 | 3.3E-06 | 4.2E-06 | 1.1E-06 | 6.3E-06 | |
| Pasting Boiler (Stack 164) | 9.7E-06 | 5.5E-06 | 3.4E-04 | 8.3E-03 | 1.6E-05 | 2.3E-06 | 5.1E-06 | 6.4E-06 | 1.7E-06 | 9.7E-06 | |
| Casting Boiler (Stack 236) | 3.1E-06 | 1.8E-06 | 1.1E-04 | 2.7E-03 | 5.1E-06 | 7.4E-07 | 1.6E-06 | 2.1E-06 | 5.7E-07 | 3.1E-06 | |
| Pasting Boiler (Stack 239) | 3.1E-06 | 1.8E-06 | 1.1E-04 | 2.7E-03 | 5.1E-06 | 7.4E-07 | 1.6E-06 | 2.1E-06 | 5.7E-07 | 3.1E-06 | |
| LCT Assembly Rapid Air Heater (Stack 245) | 1.5E-05 | 8.7E-06 | 5.4E-04 | 1.3E-02 | 2.5E-05 | 3.6E-06 | 7.9E-06 | 1.0E-05 | 2.7E-06 | 1.5E-05 | |
| Plate Storage Area Universal Oven Boiler (Stack 225) | 3.1E-06 | 1.8E-06 | 1.1E-04 | 2.7E-03 | 5.1E-06 | 7.4E-07 | 1.6E-06 | 2.1E-06 | 5.7E-07 | 3.1E-06 | |
| Charging Rapid Air Heater (Stack 243) | 6.9E-06 | 3.9E-06 | 2.5E-04 | 5.9E-03 | 1.1E-05 | 1.6E-06 | 3.6E-06 | 4.6E-06 | 1.2E-06 | 6.9E-06 | |
| Totals | 6.8E-04 | 3.9E-04 | 2.4E-02 | 0.581 | 1.1E-03 | 1.6E-04 | 3.6E-04 | 4.5E-04 | 1.2E-04 | 6.8E-04 | |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
 The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Potential Throughput (MMCF) = Combined Total Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2,000 lb/ton
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
 All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

| | | | |
|------------------------------------|----------------------------------|-----------------------|----------------|
| PM = Particulate Matter | NOx = Nitrous Oxides | DCB = Dichlorobenzene | Cr = Chromium |
| PM10 = Particulate Matter (<10 um) | VOC = Volatile Organic Compounds | Pb = Lead | Mn = Manganese |
| SO2 = Sulfur Dioxide | CO = Carbon Monoxide | Cd = Cadmium | Ni = Nickel |