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: February 16, 2009

RE: Beemsterboer Slag Corporation / 089 - 24137 - 00356

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

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Mr. Steven Beemsterboer
Beemsterboer Slag Corporation
3411 Sheffield Ave.
Hammond, IN 46327

February 16, 2009

Re: 089-24137-00356
Second Significant Source Modification to:
Part 70 Permit No.: T089-6580-00356

Dear Mr. Beemsterboer:

Beemsterboer Slag Corporation was issued Part 70 Operating Permit (T089-6580-00356) on May 25, 2006 for a slag crushing and sizing operation. An application to modify the source was received on December 29, 2006. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour;

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour;

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour;

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour;

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour;

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour;

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour;

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour;

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour;

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour;

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour;

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour;

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour;

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour;

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction when the source modification has been issued. The source must comply with the requirements of 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12 before operation of any of the proposed emission units can begin.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (800) 451-6027, and ask for John Haney or extension 4-5328, or dial (317) 234-5328.

Sincerely,

Donald F. Robin, P.E., Section Chief
Permits Branch
Office of Air Quality

Attachments
DFR/jeh
cc: File – Lake County
U.S. EPA, Region V
Lake County Health Department
Northwest Regional Office
Air Compliance Section Inspector
Compliance Data Section
Permits Administration and Support

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PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc. 3210 Watling Street East Chicago, Indiana 46312

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. 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 2-7-10.5, applicable to those conditions.

Second Significant Source Modification No.: 089-24137-00356	
Issued by: Donald F. Robin, P.E., Section Chief Permits Branch Office of Air Quality	Issuance Date: February 16, 2009

TABLE OF CONTENTS

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]
C.11 Continuous Compliance Plan [326 IAC 6.8-8]
C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
C.15 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
C.16 Response to Excursions or Exceedences [326 IAC 2-7-5] [326 IAC 2-7-6]
C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.18 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]
C.19 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]
C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

Stratospheric Ozone Protection

C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operation

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2]
D.1.2 Prevention of Significant Deterioration (PSD) and Emission Offset [326 IAC 2-2] [326 IAC 2-3]

Compliance Determination Requirements [**326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.3 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.4 Visible Emissions Notations

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.5 Record Keeping Requirements
D.1.6 Reporting Requirements

D.2 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operations

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]
D.2.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]
D.2.3 Preventative Maintenance Plan [326 IAC 2-7-5(13)]

Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.4 Particulate Control [326 IAC 2-2]
D.2.5 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.6 Visible Emissions Notations

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, A.2, A.3, and A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a slag crushing and sizing operation.

Source Address:	3210 Watling Street, East Chicago, Indiana 46312
Mailing Address:	3411 Sheffield Avenue, Hammond, Indiana 46327
General Source Phone Number:	(773) 785-6000
SIC Code:	1422
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard and PM2.5 Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD, Nonattainment NSR, and Emission Offset Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories under PSD and Emission Offset Rules

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

ArcelorMittal USA, Inc. is an integrated steel mill consisting of a source with on-site contractors:

(a) ArcelorMittal USA, Inc. (Plant ID 089-00316), the primary operation, is located at, 3210 Watling Street, East Chicago, Indiana and

(b) Beemsterboer Slag Corporation (Plant ID 089-00356), the on-site contractor (a slag crushing and sizing operation), is located at 3210 Watling Street, East Chicago, Indiana.

Separate Part 70 permits will be issued to ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation solely for administrative purposes. For permitting purposes, ArcelorMittal USA, Inc. is assigned Permit No. 089-6577-00316 and Beemsterboer Slag Corporation is assigned Permit No. 089-6580-00448.

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

Beemsterboer Slag Corporation, consisting of the following emission units and pollution control devices:

(a) One (1) Diesel Generator (EU1/GS043) 1,000 KW (3.43 MMBtu/hr) installed in 2002;

(b) Feeder Box, with maximum capacity of 800 tons/hr installed in 1992;

(c) One (1) Jaw Crusher (EU2), with maximum capacity of 495 tons/hr, installed in 1992;

(d) Two (2) Cone Crushers (one used as secondary crusher (EU3) with maximum capacity of 670 tons/hr and one used as tertiary crusher (EU4) with maximum capacity of 260 tons/hr), installed in 1992;

(e) Four (4) Screens (EU5) with maximum capacity of 800 tons/hr, installed in 1992;

(f) Two (2) Magnets;

(g) One (1) Electromagnetic Crane;

(h) Twenty-five (25) conveyors (EU6) with maximum capacity of 800 tons/hr, installed in 1992 and 2003;

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour;

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour;

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour;

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour;

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour;

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour;

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour;

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour;

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour;

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour;

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour;

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour;

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour;

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour;

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW;

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW; and

(fffff) One (1) slag crushing plant, approved for construction in 2008, identified as LaFarge Crushing Plant, with PM controlled by wet suppression, and consisting of the following new equipment:

(1) One (1) jaw crusher, identified as jaw crusher CP016, with a maximum capacity of 420 tons per hour;

(2) One (1) feed belt, identified as feed belt CP016, with a maximum capacity of 693.72 tons per hour;

(3) One (1) under belt, identified as under belt CP016, with a maximum capacity of 1,040.58 tons per hour;

(4) One (1) over belt magnet, identified as MG017;

(5) One (1) electrical control room; and

(6) Associated storage piles, loading and unloading of trucks, and road traffic.

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

Beemsterboer Slag Corporation, does not currently have any insignificant activities, as defined in 326 IAC 2-7-1 (21) that have applicable requirements.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [13-15-3-6(a)]

(a) This permit, T089-6580-00356, is issued for a fixed term of five (5) 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Enforceability [326 IAC 2-7-7]

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.4 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

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 2-7-3 and 326 IAC 2-7-4(a).

B.5 Severability [326 IAC 2-7-5(5)]

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 2-7-5(6)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(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 the “responsible official” as defined by 326 IAC 2-7-1(34). 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 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

(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 the "responsible official" 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) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

(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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than April 15 of each year to:

Indiana Department of Environmental Management
Compliance Branch, 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, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(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 2-7-5(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

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

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) To the extent the Permittee is required by 40 CFR Part 60 or Part 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.11 Emergency Provisions [326 IAC 2-7-16]

(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.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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 No.: 317-233-0178 (ask for Compliance Section)
Facsimile No.: 317-233-6865
Northwest Regional Office Telephone Number: (219) 757-0265
Northwest Regional Office Facsimile Number: (219) 757-0267

(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 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 2-7-5(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 2-7-4(c)(9) 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 2-7 and any other applicable rules.

(g) 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.

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

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed in compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T089-6580-00356 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(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 Data Section, 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 the “responsible official” as defined by 326 IAC 2-7-1(34).

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

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(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 2-7-9(a)(3)]

(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 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(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 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4]

(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 2-7-4. 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, 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 2-7 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.17 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), 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 preconstruction approval required by 326 IAC 2-7-10.5 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
Permits Branch, 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 2-7-20(b), (c), or (e). 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 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(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 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(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 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) 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 2-7-10.5] [326 IAC 2-2-2] [326 IAC 2-3-2]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2 and/or 326 IAC 2-3-2.

B.21 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

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 Part 70 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 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 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 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 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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
Permits Branch, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [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) Except as provided in 326 IAC 2-7-19(e), 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 2-7-5(3)] [326 IAC 2-7-6] [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.

B.25 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.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 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 twenty percent (20%) 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.2 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.3 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.4 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). 326 IAC 6-4-2(4) is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6.8-10]

(a) Pursuant to 326 IAC 6.8-10 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

(1) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(2) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(3) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(4) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(5) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(6) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(7) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(8) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(9) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(10) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(11) Any facility or operation not specified in 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1(d)) shall meet a twenty percent (20%), three (3) minute average opacity standard.

(12) PM10 emissions from each material processing stack shall not exceed 0.022 grains per dry standard cubic foot and ten percent (10%) opacity.

(13) Fugitive particulate matter from the material processing facilities shall not exceed ten percent (10%) opacity.

(14) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:

(A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

(B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1(d)(9)).

Material processing facilities include crushers, screens, grinders, mixers, dryers, belt conveyors, bucket elevators, bagging operations, storage bins, and truck or railroad car loading stations.

The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan, submitted on November 22, 1993.

(b) The Permittee is subject to 326 IAC 6.8-11-4, 326 IAC 6.8-11-5 and 326 IAC 6.8-11-6 (formerly 326 IAC 6-1-11.2(h), (i), (k), (l), (m), (o), (p) and (q) (Lake County Particulate Matter Contingency Measures) because it is subject to the requirements of 326 IAC 6.8-10 (formerly 326 IAC 6-1-11.1).

C.6 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 Accredited 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 Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 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 Data Section, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.9 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 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(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. 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 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.11 Continuous Compliance Plan [326 IAC 6.8-8]

(a) Pursuant to 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 6.8-8-7 or applicable procedures in the CCP.

(b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required, to IDEM, OAQ within thirty (30) days of the update.

(c) Pursuant to 326 IAC 6.8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP, if required, is a violation of 326 IAC 6.8.

C.12 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.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(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 2-7-5] [326 IAC 2-7-6]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

(a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

C.15 Risk Management Plan [326 IAC 2-7-5(12)] [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 2-7-5] [326 IAC 2-7-6]

(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;

(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 2-7-5] [326 IAC 2-7-6]

(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 and 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.18 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants (as defined by 326 IAC 2-7-1(32)) ("Regulated pollutant which is used only for purposes of Section 19 of this rule") from the source, for purposes of Part 70 fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.19 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(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.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A), 40 CFR 51.165 (a)(6)(vi)(B), 40 CFR 51.166 (r)(6)(vi)(a), and/or 40 CFR 51.166 (r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a projects at source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll) at an existing emissions unit, document and maintain the following records:
  (A) A description of the project.
  (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
  (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
    (i) Baseline actual emissions;
    (ii) Projected actual emissions;
    (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(3)); and
    (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A) and/or 40 CFR 51.166 (r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.20 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 Data Section, 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. 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.

(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant; and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C- General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in *326* IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

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

(h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM,. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.21 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 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operation

Facility Description [326 IAC 2-7-5(15)]:

(a) One (1) Diesel Generator (EU1/GS043) 1,000 KW (3.43 MMBtu/hr) installed in 2002;

(b) Feeder Box, with maximum capacity of 800 tons/hr installed in 1992;

(c) One (1) Jaw Crusher (EU2), with maximum capacity of 495 tons/hr, installed in 1992;

(d) Two (2) Cone Crushers (one used as secondary crusher (EU3) with maximum capacity of 670 tons/hr and one used as tertiary crusher (EU4) with maximum capacity of 260 tons/hr), installed in 1992;

(e) Four (4) Screens (EU5) with maximum capacity of 800 tons/hr, installed in 1992;

(f) Two (2) Magnets;

(g) One (1) Electromagnetic Crane; and

(h) Twenty-five (25) conveyors (EU6) with maximum capacity of 800 tons/hr, installed in 1992 and 2003.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Matter Limitations for Lake County [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), the following emission units shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf) of particulate matter less than ten (10) microns in diameter (PM_{10}):

Storage Piles, Truck Loading & Unloading, Transporting (Road Emissions), Feeder Box, one (1) Jaw Crusher (EU2), two (2) Cone Crushers (EU3 and EU4), four (4) Screens (EU5), two (2) Magnets, one (1) Electromagnetic Crane, fourteen (14) conveyors (EU6), and Diesel Generator (EU1).

D.1.2 Prevention of Significant Deterioration (PSD) and Emission Offset [326 IAC 2-2] [326 IAC 2-3]

(a) The input of steel mill slag to the portable crushing, screening and conveying plant consisting of: Feeder Box; one (1) Jaw Crusher (EU2); two (2) Cone Crushers (EU3 and EU4); four (4) Screens (EU5); two (2) Magnets; one (1) Electromagnetic Crane; and fourteen (14) conveyors (EU6) shall be less than 731,308 tons per twelve (12) consecutive month period with compliance demonstrated at the end of each month. This will ensure limiting particulate matter emissions from the entire plant to less than 25 tons per year and that of PM_{10} emissions to less than 15 tons per year, including fugitives. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset), do not apply.

(b) The diesel fuel input to the diesel generator, installed in 2002, identified as EU1/GS043, shall not exceed 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This will result in the total amount of nitrogen oxides (NO_x) emitted from combustion of diesel fuel oil by generator (EU1/GS043) to be less than 40 tons per twelve (12) consecutive month period.

Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) do not apply.

(c) The slag input to the eleven (11) conveyors (collectively identified as EU6), installed in 2003, shall be less than 5,848,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

Compliance Determination Requirements [**326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.1.3 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter Control Requirements), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

Opacity from the activities shall be determined as follows:

(a) Paved Roads and Parking Lots
The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(b) Unpaved Roads and Parking
The fugitive particulate emissions from unpaved roads shall be controlled by the implementation of a work program and work practice under the fugitive dust control plan.

(c) Batch Transfer
The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(d) Continuous Transfer
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. The opacity readings shall be taken at least four (4) feet from the point of origin.

(e) Wind Erosion from Storage Piles
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply

during periods when application of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company must continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(f) Wind Erosion from Exposed Areas
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

(g) Material Transported by Truck or Rail
Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the inplant transportation requirement.

(h) Material Transported by Front End Loader or Skip Hoist
Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet from the plume approximately and at right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(i) Material Processing Limitations
Compliance with all opacity limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 9. Compliance with all visible emissions limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 22. Compliance with all particulate matter limitations from material processing equipments shall be determined using 40 CFR 60, Appendix A, Method 5 or 17.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.4 Visible Emissions Notations

(a) Visible emissions notations of the exhausts from the feeder box, the screens, crushers and the conveyor transfer points shall be performed once per day during normal daylight operations. A trained employee will 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 is an employee who has worked 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 steps in accordance with Section C-Response to Excursions or Exceedences. Failure to take response steps in accordance with Section C- Response to Excursions or Exceedances shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.5 Record Keeping Requirements

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records at the plant of the steel mill slag input.

(b) A log of monthly fuel consumption necessary to document compliance with D.1.2 shall be maintained.

(c) To document compliance with Condition D.1.4, the Permittee shall maintain records of visible emission notations of the feeder box, the screens, crushers and the conveyor transfer points stack exhaust once per day. 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).

(d) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter Control Requirements):

The source shall keep the following documentation to show compliance with each of its control measures and control practices:

(1) A map or diagram showing the location of all emission sources controlled, including the location, identification, length, and width of roadways.

(2) For each application of water or chemical solution to roadways, the following shall be recorded:

(A) The name and location of the roadway controlled;

(B) Application rate;

(C) Time of each application;

(D) Width of each application;

(E) Identification of each method of application;

(F) Total quantity of water or chemical used for each application;

(G) For each application of chemical solution, the concentration and identity of the chemical; and

(H) The material data safety sheets for each chemical.

(3) For application of physical or chemical control agents not covered by 326 IAC 6.8-10-1, the following:

(A) The name of the agent;

(B) Location of application;

(C) Application rate;

(D) Total quantity of agent used;

(E) If diluted, percent of concentration; and

(F) The material data safety sheets for each chemical.

(4) A log recording incidents when control measures were not used and a statement of explanation.

(5) Copies of all records required by this section shall be submitted to the department within twenty (20) working days of a written request by the department.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.6 Reporting Requirements

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter Control Requirements), a quarterly report shall be submitted, stating the following:

(1) The dates any required control measures were not implemented;

(2) A listing of those control measures;

(3) The reasons that the control measures were not implemented; and

(4) Any corrective action taken.

(b) A quarterly summary of the information to document compliance with Condition D.1.2(a) and D.1.2 (b) shall be submitted 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.

(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operations

Facility Description [326 IAC 2-7-5(15)]

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour;

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour;

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour;

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour;

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour;

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour;

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour;

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour;

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour;

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour;

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour;

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour;

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour;

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour;

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour;

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour;

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour;

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour;

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour;

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour;

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour; and

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR):

(a) The iron ore pellets or other aggregate material input to the crusher (identified as CP007), installed in 1992, shall not exceed 110,300 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limitation will ensure that the potential to emit from these modifications are less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than ten (10) tons of $PM_{2.5}$ per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for Significant Source Modification No. 089-24137-00356.

D.2.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), the following emission units shall not exceed 0.03 gr/dscf of particulate matter less than ten (10) microns in diameter (PM_{10}):

Storage Piles, Truck Loading & Unloading, Transporting (Road Emissions), Conveyor Feeder (CF017), Conveyor Stacker (CS003), Screen (SP001), Screen (SP002), Conveyor Feeder (CF024), Screen (SP005), Conveyor Stacker (CS035), Conveyor Stacker (CS018), Conveyor Stacker (CS006), Conveyor Stacker (CS012), Screen (SP007), Conveyor Shuttle (SH010), Conveyor Shuttle (SH013), Conveyor Feeder (CF013), Conveyor Stacker (CS028), Conveyor Shuttle (SH007), Conveyor Shuttle (SH008), Conveyor Shuttle (SH016), Conveyor Stacker (CS033), Conveyor Stacker (CS015), Conveyor Stacker (CS026), Conveyor Shuttle (SH001), Screen (SP003), Screen (SP008), Conveyor Feeder (CF008), Conveyor Feeder (CF009), Conveyor Stacker (CS011), Conveyor Stacker (CS032), Screen (SP014), Conveyor Feeder (BH004), Conveyor Feeder (CF011), Conveyor Shuttle (SH006), Conveyor Shuttle (SH011), Conveyor Stacker (CS021), Conveyor Feeder (CF012), Conveyor Feeder (CF022), Conveyor Stacker (CS030), Conveyor Shuttle (SH012), Conveyor Feeder (CF010), Conveyor Stacker (CS023), Conveyor Stacker (CS025), Crusher (CP005), Conveyor Stacker (CS005), Conveyor Shuttle (SH005), Conveyor Shuttle (SH052), Screen (SP009), Conveyor Feeder (CF014), Conveyor Stacker (CS029), Conveyor Feeder (CF007), Crusher (CP007), Conveyor Feeder (CF026), Conveyor Feeder (CF031), Conveyor Feeder (CF032), Conveyor Stacker (CS036), Conveyor Stacker (CS038), Conveyor Stacker (CS040), Conveyor Shuttle (SH040), Conveyor Shuttle (SH041), Conveyor Shuttle (SH042), Conveyor Shuttle (SH043), Screen (SP004), Screen (SP006), Conveyor Feeder (CF034), Conveyor Stacker (CS039), Conveyor Stacker (CS041), Conveyor Stacker (CS044), Conveyor Stacker (CS045), Conveyor Shuttle (SH049), Conveyor Feeder (CF036), Crusher (CP014), Pugmill (PG004), Conveyor Shuttle (SH050), Conveyor Shuttle (SH051), Conveyor Shuttle (SH054), Screen (SP027), Conveyor Feeder (CF025), Crusher (CP012), Conveyor Stacker (CS043), Screen (SP033), and Screen (SP034).

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Compliance Determination Requirements [**326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.2.4 Particulate Control [326 IAC 2-2]

In order to ensure compliance with Conditions D.2.1 and D.2.2, the Permittee shall apply an initial application of water or a mixture of water and wetting agent to control the PM, PM_{10} and $PM_{2.5}$ emissions from the slag crushing and sizing operations. The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Conditions D.2.1 and D.2.2. If weather conditions preclude the use of wet suppression, the Permittee shall perform chemical analysis on the metallurgical material to ensure it has a moisture content greater than 1.5 percent of the process stream by weight. The Permittee shall submit to IDEM OAQ the method for moisture content analysis for approval.

D.2.5 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

Opacity from the activities shall be determined as follows:

(a) Paved Roads and Parking Lots
The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(b) Unpaved Roads and Parking
The fugitive particulate emissions from unpaved roads shall be controlled by the implementation of a work program and work practice under the fugitive dust control plan.

(c) Batch Transfer
The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(d) Continuous Transfer
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. The opacity readings shall be taken at least four (4) feet from the point of origin.

(e) Wind Erosion from Storage Piles
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of

maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply during periods when applications of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company must continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(f) Wind Erosion from Exposed Areas
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

(g) Material Transported by Truck or Rail
Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the in plant transportation requirement.

(h) Material Transported by Front End Loader or Skip Hoist
Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet from the plume approximately and at right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(i) Material Processing Limitations
Compliance with all opacity limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 9. Compliance with all visible emissions limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 22. Compliance with all particulate matter limitations from material processing equipments shall be determined using 40 CFR 60, Appendix A, Method 5 or 17.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.6 Visible Emissions Notations

(a) Visible emissions notations of the exhausts from the slag crushing and sizing operations listed in Section D.2 shall be performed once per day during normal daylight operations. A trained employee will 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 is an employee who has worked 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 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.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.7 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the slag input to the crusher (identified as CP007) monthly.

(b) To document compliance with Condition D.2.6, the Permittee shall maintain records of visible emission notations of the slag crushing and sizing operations listed in Section D.2 once per day. 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) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter):

The source shall keep the following documentation to show compliance with each of its control measures and control practices:

(1) A map or diagram showing the location of all emission sources controlled, including the location, identification, length, and width of roadways.

(2) For each application of water or chemical solution to roadways, the following shall be recorded:

(A) The name and location of the roadway controlled;

(B) Application rate;

(C) Time of each application;

(D) Width of each application;

(E) Identification of each method of application;

(F) Total quantity of water or chemical used for each application;

(G) For each application of chemical solution, the concentration and identity of the chemical; and

(H) The material data safety sheets for each chemical.

(3) For application of physical or chemical control agents not covered by 326 IAC 6.8-10-1, the following:

(A) The name of the agent;

(B) Location of application;

(C) Application rate;

(D) Total quantity of agent used;

(E) If diluted, percent of concentration; and

(F) The material data safety sheets for each chemical.

(4) A log recording incidents when control measures were not used and a statement of explanation.

(5) Copies of all records required by this section shall be submitted to the department within twenty (20) working days of a written request by the department.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.8 Reporting Requirements

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), a quarterly report shall be submitted, stating the following:

(1) The dates any required control measures were not implemented.

(2) A listing of those control measures.

(3) The reasons that the control measures were not implemented.

(4) Any corrective action taken.

(b) A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted 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.

(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.3 FACILITY OPERATION CONDITIONS - Generators

Facility Description [326 IAC 2-7-5(15)]

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 PSD and Emission Offset Minor Limit [326 IAC 2-2] [326 IAC 2-3]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset):

(a) The diesel fuel input to the three (3) diesel generators, installed in 1980, identified as GS011, GS013, and GS015, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The diesel fuel input to the two (2) diesel generators, installed in 1984, identified as GS020 and GS022, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The diesel fuel input to the two (2) diesel generators, installed in 1988, identified as GS025 and GS026, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The diesel fuel input to the two (2) diesel generators, installed in 1995, identified as GS031 and GS032, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) The diesel fuel input to the diesel generator, installed in 1998, identified as GS038, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(f) The diesel fuel input to the diesel generator, installed in 1999, identified as GS040, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(g) The diesel fuel input to the diesel generator, installed in 2000, identified as GS042, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(h) Pursuant to Significant Source Modification No. 089-24137-00356, the diesel fuel input to the diesel generator, installed in 1992 and reinstated in 2002, identified as EU1/GS033, shall be less than 138,879 gallons per 12 consecutive month period, with compliance demonstrated at the end of each month.

(i) The diesel fuel input to the diesel generator, installed in 2005, identified as GS045, shall be less than 131,528 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limitations will ensure that the potential to emit from these modifications are less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, and less than forty (40) tons of NO_x per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) are rendered not applicable for Significant Source Modification No. 089-24137-00356.

D.3.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), the following emission units shall not exceed 0.03 gr/dscf of particulate matter less than ten (10) microns in diameter (PM_{10}):

200 kW Generator (GS004), 155 kW Generator (GS011), 100 kW Generator (GS013), 105 kW Generator (GS015), 60 kW Generator (GS016), 135 kW Generator (GS017), 25 kW Generator (GS019), 180 kW Generator (GS020), 125 kW Generator (GS022), 40 kW Generator (GS021), 150 kW Generator (GS023), 180 kW Generator (GS024), 175 kW Generator (GS025), 180 kW Generator (GS026), 40 kW Generator (GS029), 40 kW Generator (GS030), 105 kW Generator (GS031), 125 kW Generator (GS032), 40 kW Generator (GS035), 600 kW Generator (GS038), 600 kW Generator (GS040), 320 kW Generator (GS042), 600 kW Generator (EU1/GS033), 250 kW Generator (GS045), and 200 kW Generator (GS046).

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.4 Record Keeping Requirements

(a) To document compliance with Condition D.3.1, the Permittee shall maintain records of the diesel fuel input to the diesel generators monthly.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.5 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted 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.

(b) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.4 FACILITY OPERATION CONDITIONS - LaFarge Plant

Facility Description [326 IAC 2-7-5(15)]

(fffff) One (1) slag crushing plant, approved for construction in 2008, identified as LaFarge Crushing Plant, with PM controlled by wet suppression, and consisting of the following new equipment:

(1) One (1) jaw crusher, identified as jaw crusher CP016, with a maximum capacity of 420 tons per hour;

(2) One (1) feed belt, identified as feed belt CP016, with a maximum capacity of 693.72 tons per hour;

(3) One (1) under belt, identified as under belt CP016, with a maximum capacity of 1,040.58 tons per hour;

(4) One (1) over belt magnet, identified as MG017;

(5) One (1) electrical control room; and

(6) Associated storage piles, loading and unloading of trucks, and road traffic.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR):

(a) The total amount of slag processed at the LaFarge Plant shall not exceed 850,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limitation will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than ten (10) tons of $PM_{2.5}$ per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for Significant Source Modification No. 089-25071-00356.

D.4.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), emissions of particulate matter less than ten (10) microns in diameter (PM_{10}) from the following units shall not exceed the following limitations:

Summary of Process Weight Rate Limits	
Unit ID	PM_{10} Limit (gr/dscf)
Storage Piles	0.03
Truck Loading & Unloading	0.03
Transporting (Road Emissions)	0.03
Feed Belt (CP016)	0.03
Jaw Crusher (CP016)	0.03
Under Belt (CP016)	0.03

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Compliance Determination Requirements [**326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

D.4.4 Particulate Control [326 IAC 2-2]

In order to ensure compliance with Conditions D.4.1 and D.4.2, the Permittee shall apply an initial application of water or a mixture of water and wetting agent to control the PM, PM_{10} and $PM_{2.5}$ emissions from the crusher and the conveyors. The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Conditions D.4.1 and D.4.2. If weather conditions preclude the use of wet suppression, the Permittee shall perform chemical analysis on the metallurgical material to ensure it has a moisture content greater than 1.5 percent of the process stream by weight. The Permittee shall submit to IDEM OAQ the method for moisture content analysis for approval.

D.4.5 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

Opacity from the activities shall be determined as follows:

(a) Paved Roads and Parking Lots
The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(b) Unpaved Roads and Parking
The fugitive particulate emissions from unpaved roads shall be controlled by the implementation of a work program and work practice under the fugitive dust control plan.

(c) Batch Transfer
The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(d) Continuous Transfer
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. The opacity readings shall be taken at least four (4) feet from the point of origin.

(e) Wind Erosion from Storage Piles
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply during periods when application of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company must continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(f) Wind Erosion from Exposed Areas
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

(g) Material Transported by Truck or Rail
Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the in plant transportation requirement.

(h) Material Transported by Front End Loader or Skip Hoist
Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet from the plume approximately and at right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(i) Material Processing Limitations
Compliance with all opacity limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 9. Compliance with all visible emissions limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 22. Compliance with all particulate matter limitations from material processing equipments shall be determined using 40 CFR 60, Appendix A, Method 5 or 17.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.4.6 Visible Emissions Notations

(a) Visible emissions notations of the exhausts from the crusher and the conveyor transfer points shall be performed once per day during normal daylight operations. A trained employee will 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 is an employee who has worked 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 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.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.7 Record Keeping Requirements

(a) To document compliance with Condition D.4.1, the Permittee shall maintain records at the plant of the LaFarge Plant slag input monthly.

(b) To document compliance with Condition D.4.4, the Permittee shall maintain records of the chemical analysis of the metallurgical material, as needed.

(c) To document compliance with Condition D.4.6, the Permittee shall maintain records of visible emission notations of the crusher and the conveyor transfer points stack exhaust once per day. 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).

(d) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter):

The source shall keep the following documentation to show compliance with each of its control measures and control practices:

(1) A map or diagram showing the location of all emission sources controlled, including the location, identification, length, and width of roadways.

(2) For each application of water or chemical solution to roadways, the following shall be recorded:

(A) The name and location of the roadway controlled;

(B) Application rate;

(C) Time of each application;

(D) Width of each application;

(E) Identification of each method of application;

(F) Total quantity of water or chemical used for each application;

(G) For each application of chemical solution, the concentration and identity of the chemical; and

(H) The material data safety sheets for each chemical.

(3) For application of physical or chemical control agents not covered by 326 IAC 6.8-10-1, the following:

(A) The name of the agent;

(B) Location of application;

(C) Application rate;

(D) Total quantity of agent used;

(E) If diluted, percent of concentration; and

(F) The material data safety sheets for each chemical.

(4) A log recording incidents when control measures were not used and a statement of explanation.

(5) Copies of all records required by this section shall be submitted to the department within twenty (20) working days of a written request by the department.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.8 Reporting Requirements

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), a quarterly report shall be submitted, stating the following:

(1) The dates any required control measures were not implemented.

(2) A listing of those control measures.

(3) The reasons that the control measures were not implemented.

(4) Any corrective action taken.

(b) A quarterly summary of the information to document compliance with Condition D.4.1 shall be submitted 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.

(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]

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

E.1.1 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 20-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.4200, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 60, Subpart IIII in accordance with schedule in 40 CFR Part 60, Subpart IIII.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.1.2 Stationary Compression Ignition Internal Combustion Engines NSPS [40 CFR Part 60, Subpart IIII]

The Permittee which owns and operates stationary compression ignition internal combustion engines shall comply with the provisions of 40 CFR Part 60, Subpart IIII (included as Attachment B of this permit):

(1) 40 CFR 60.4200(a)(2)(i);
(2) 40 CFR 60.4204(a);
(3) 40 CFR 60.4206;
(4) 40 CFR 60.4207;
(5) 40 CFR 60.4208;
(6) 40 CFR 60.4209;
(7) 40 CFR 60.4211(a) and (b);
(8) 40 CFR 60.4212;
(9) 40 CFR 60.4214;
(10) 40 CFR 60.4218;
(11) 40 CFR 60.4219;
(12) Table 1 to Subpart IIII of Part 60;
(13) Table 7 to Subpart IIII of Part 60; and
(14) Table 8 to Subpart IIII of Part 60.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

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:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

This form consists of 2 pages **Page 1 of 2**

This is an emergency as defined in 326 IAC 2-7-1(12)

- 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
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel generator (EU1/GS043)
Parameter: Diesel fuel consumption
Limit: less than 138,879 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter: _____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: The portable crushing, screening and conveying plant (installed in 1992) consisting of: Feeder Box, one (1) Jaw Crusher (EU2), two (2) Cone Crushers (EU3 and EU4), four (4) Screens (EU5), two (2) Magnets, one (1) Electromagnetic Crane, and fourteen (14) conveyors (EU6)
Parameter: slag throughput
Limit: less than 731,308 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: One slag crushing plant, identified as LaFarge Crushing Plant
Parameter: slag throughput
Limit: less than 850,000 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Crusher (CP007)
Parameter: iron ore pellets or other aggregate material throughput
Limit: less than 110,300 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: eleven (11) conveyors (EU6) (installed in 2003)
Parameter: slag throughput
Limit: less than 5,848,000 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Three Diesel Generators (GS011, GS013, and GS015)
Parameter: diesel fuel input, collectively
Limit: less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Two Diesel Generators (GS020 and GS022)
Parameter: diesel fuel input, collectively
Limit: less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Two Diesel Generators (GS025 and GS026)
Parameter: diesel fuel input, collectively
Limit: less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Two Diesel Generators (GS031 and GS032)
Parameter: diesel fuel input, collectively
Limit: less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel Generator (GS038)
Parameter: diesel fuel input
Limit: less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel Generator (GS040)
Parameter: diesel fuel input
Limit: less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel Generator (GS042)
Parameter: diesel fuel input
Limit: less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel Generator (GS043)
Parameter: diesel fuel input
Limit: less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: Diesel Generator (GS045)
Parameter: diesel fuel input
Limit: less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Beemsterboer Slag Corp, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: 3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

Months: _____ to _____ Year: _____

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".

NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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:	
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.

Fugitive Dust Control Plan

Beemsterboer Slag Corp.
ArcelorMittal Indiana Harbor East
3210 Watling Street
East Chicago, Indiana 46327

Prepared for
Beemsterboer Slag Corp.
3411 Sheffield Avenue
Hammond, Indiana 46383

Prepared by
Integrated Environmental Solutions, Inc.
7550 E. Melton Road
Gary, Indiana 46403

June 26, 2008

1.0 INTRODUCTION

Beemsterboer Slag Corp ("Beemsterboer") operates slag processing plants at the ArcelorMittal Indiana Harbor West steel mill at 3210 Watling Street, East Chicago, Lake County, Indiana. The slag processing plants include the main slag plant and the proposed LaFarge plant. Figure 1 illustrates the location of each slag plant. This Fugitive Dust Control Plan is prepared in general accordance with the requirements of 326 IAC 6.8-10 pertaining to specific sources of fugitive dust in Lake County, Indiana that include Beemsterboer.

2.0 PROCESS DESCRIPTION

Main Slag Plant

Beemsterboer operates a main slag crushing and sizing plant on a forty (40) acre parcel of land on ArcelorMittal Indiana Harbor East Property. Beemsterboer processes the slag produced from ArcelorMittal Indiana Harbor West Blast Furnaces Nos. 5, 6, and 7 into various grades for use in construction and other industrial activities. The main plant layout is included as Figure 2. The flow diagram for the main plant is included as Figure 3.

The raw slag from the slag pits is transferred by ArcelorMittal trucks to the stockpiles at Beemsterboer's main plant. The raw slag is quenched with water at the slag pits to cool the slag prior to transportation to the stockpiles. The slag has an approximate moisture content of 8 percent with the addition of water. The trucks used for slag transportation carry approximately 40 tons in each trip. The distance from the slag pits to the stockpiles is approximately 1.4 miles consisting of 1.0 mile of paved and 0.4 mile of unpaved road. The roads used for this transportation are on ArcelorMittal property. Approximately 2000 tons of slag is transferred to the stockpiles each day resulting in approximately 50 truck trips.

The raw slag from the stockpiles is transferred to the feeder box of the main plant using a front-end loader. The loader makes approximately 40 trips each hour carrying 8 to 9 tons each load. Two loaders are used for this operation. The maximum slag amount that can be transferred is approximately 800 tons per hour. The round trip distance is approximately 500 feet. The slag from the feeder box is transferred by conveyor underneath a magnet to separate scrap iron from the slag. The slag then goes through a 4-inch screen and the slag which cannot pass through the screen goes through a Jaw Crusher. The Jaw Crusher, which was initially run by a 125 horse power IC Engine, is powered by a 1000 kilowatt (KW) generator. The crushed slag once again passes under a magnet to remove the scrap iron from the slag. The transfer of material between operations is accomplished through a conveyor system. The slag then passes through four (4) screens and two (2) cone crushers to produce the desired size of slag.

The processed slag at various stages is transferred using continuous belt conveyors. A total of twenty-six conveyors are used at the main slag plant. The total length of conveyors is approximately 1200 feet. The depth of free fall at the final stages is controlled by raising or lowering the end conveyor. Slag from some intermediate piles is then transferred to the main piles using front-end loaders. This transfer allows for better mixing and uniform grade of the aggregate. The various sizes of piles at the Plant include 2"x3", 2"x1.25", 3"x5", 5's, 8's, 11's, 53's, 73's and few other minor piles.

The slag is transferred from the piles to client sites by trucks. The majority of the trucks are 18 wheel semi-trailers owned by purchasers of the slag or their transporters. Beemsterboer owns some of the trucks used for the off-site transportation of the slag.

LaFarge Plant

Beemsterboer is proposing to operate a second smaller slag plant that will be known as the LaFarge Plant. The LaFarge Plant is located northwest of the main slag plant and is situated on approximately eight acres on the ArcelorMittal Indiana Harbor East property. Beemsterboer will process the slag produced from ArcelorMittal Indiana Harbor West Blast Furnace No. 7 into various

grades for use in construction and other industrial activities. The flow diagram for the LaFarge Plant is included as Figure 4. The LaFarge Plant layout is included as Figure 5.

The raw slag from the slag pile (i.e., bank run pile) will be loaded by a front end loader into the pan feeder hopper by a front end loader. The distance from the slag pile to the pan feeder hopper is approximately 0.2 miles of unpaved road. The roads used for this transportation are on ArcelorMittal property. Approximately 4,000 tons of slag will be loaded into the pan feeder each day.

The loaders will make approximately 56 trips each hour carrying approximately 8 to 9 tons each load. Two loaders will be used for this operation. The maximum slag amount that can be transferred is approximately 500 tons per hour. The round trip distance is approximately 2,100 feet. The slag will then go through a 16-inch grate. The slag which cannot pass through the grate will be pushed off, collected and recycled at a later time. The slag is then processed through two (2) magnets, one (1) jaw crusher, three (3) chutes and one (1) screen to produce the desired size of slag.

The processed slag at various stages is transferred using continuous belt conveyors. A total of nine conveyors will be used at the LaFarge plant. The total length of conveyors is approximately 530 feet. The depth of free fall at the final stages is controlled by raising or lowering the end conveyor. Slag from some intermediate piles is then transferred to the main piles using front-end loaders. This transfer allows for better mixing and uniform grade of the aggregate. The various types of product piles at the LaFarge plant will include 53's and 3"x 1" products. The size of the piles will be maintained at approximately 10,000 tons per pile.

The final products will be transferred from the finished piles to client sites by trucks. The majority of the trucks are 18 wheel semi-trailers owned by purchasers of the slag or their transporters. Beemsterboer owns some of the trucks used for the off-site transportation of the slag.

3.0 CONTROL OF FUGITIVE DUST

The primary emissions from the operation of the slag processing facility consist of particulate matter (i.e., PM and PM-10). Due to the facility's location in a primary non-attainment area for total suspended particulates, the control of PM and PM-10 emissions is very important for Lake County Air Quality. Beemsterboer has implemented an effective fugitive dust control plan for the facility. The potential emission sources at the Site are as follows:

1. Unloading of slag from the ArcelorMittal trucks to stockpiles.
2. Loading by front-end loaders at the stockpiles.
3. Unloading of slag from the loaders to feeder box.
4. Crushing of slag at Jaw Crusher, 5½" and 4¼" Cone Crusher.
5. Wind blowout from transfer of slag on conveyors.
6. Fall of slag at the end of conveyor to the slag pile.
7. Transfer of slag from intermediate piles to main storage piles.
8. Loading of trucks for transportation.
9. Unpaved road emissions from operation of vehicles for various activities.

All the emissions as described above are considered fugitive in nature. The Beemsterboer plants are open air operations with no dust collection equipment. The only way to control the total fugitive dust emissions is through a reduction in the potential particulate emissions. This is accomplished at the Beemsterboer slag plants primarily through wet suppression and reducing the fall distance of slag transfers. Beemsterboer has one full-time person dedicated to watering the roads at the plants and slag piles as required. In general, during the summer the truck is operated constantly during the working hours. Beemsterboer operates three tankers and has an additional tanker on standby for watering the slag plants. The trucks have a capacity of 3,500-gallons, 4,200-gallons and 4,000-gallons each. In addition, a petroleum based dust suppressant called Petrotac is used on an as-needed-basis.

Beemsterboer understands the opacity limitations on the various activities conducted at the site. Although certified testing will not be conducted on a scheduled basis, the plant manager will observe the visible dust emissions from the plant operations. If visible emissions are observed in the crushing or transferring operations, water will be applied to the slag stockpiles to add some moisture. Water application along the conveyor is also conducted.

As mentioned previously, the emissions generated from the transfer of slag from ArcelorMittal are conducted on ArcelorMittal roads. Beemsterboer is responsible for dust generation from the slag plant operations, in-plant transportation by loaders and truck traffic generated by slag transportation by Beemsterboer clients. The speed of vehicles on the plant roads is kept below 15 miles to reduce the road emissions. The emissions generated at the end of the conveyors are controlled by limiting the fall distance to a maximum of 5 feet. On average, the fall distance is kept at 2 to 3 feet.

FIGURES

FIGURE 1
PROPOSED LAFARGE SLAG PROCESSING PLANT LOCATION

Beemsterboer Slag Corp
3210 Watling Street
East Chicago, Indiana 46312

IES Project No.	Scale: None	Date Prepared: 7/27/07	Prepared by: David Peña

7550 E. Melton Road
Gary, Indiana 46403

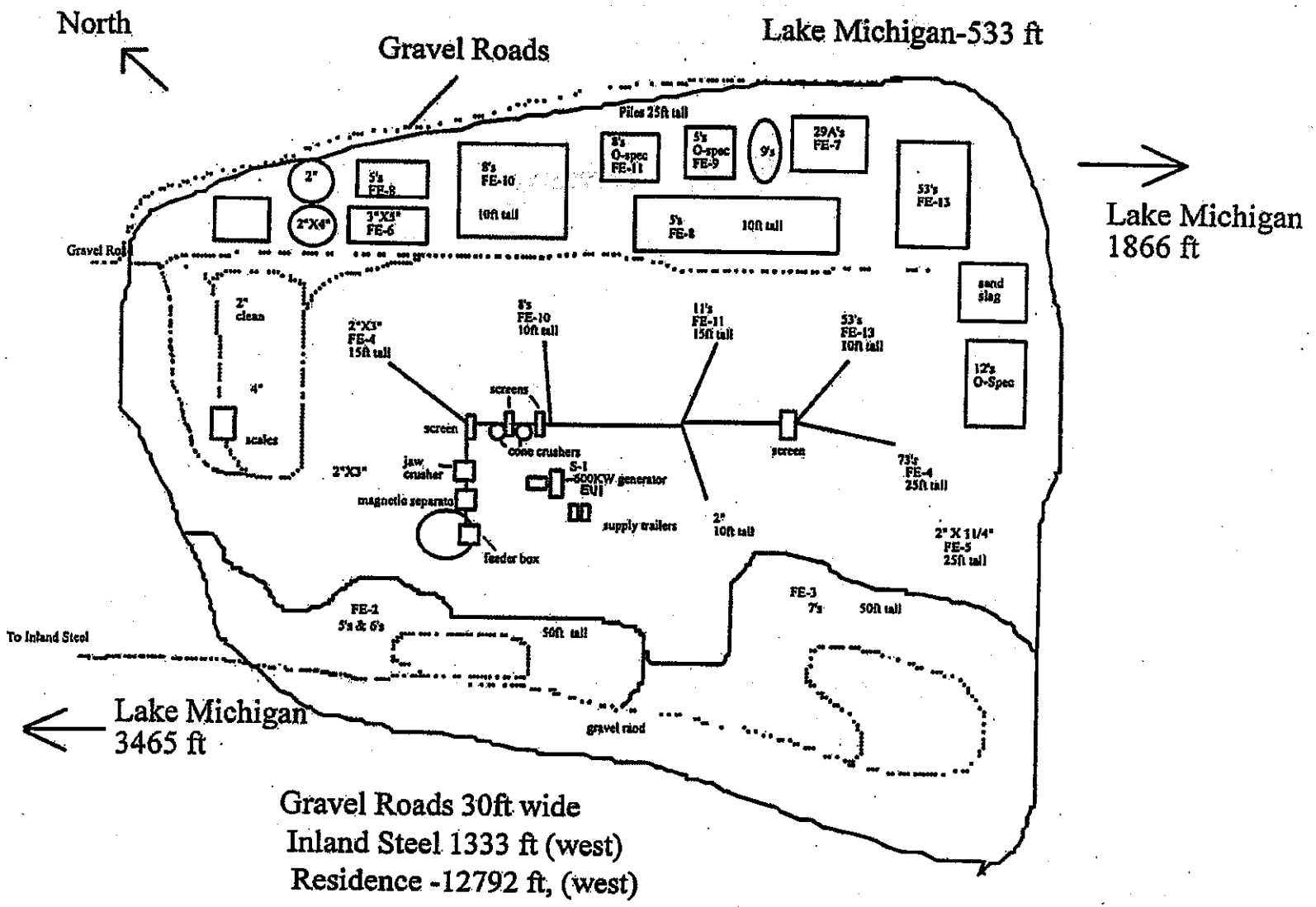

FIGURE 2
PLANT LAYOUT

Beemsterboer Slag Corp
ArcelorMittal Indiana Harbor East

IES Project No. 51023-01902	Scale: None	Date Prepared: 7/15/08	Prepared by: David Peña

7550 E. Melton Road
Gary, Indiana 46403

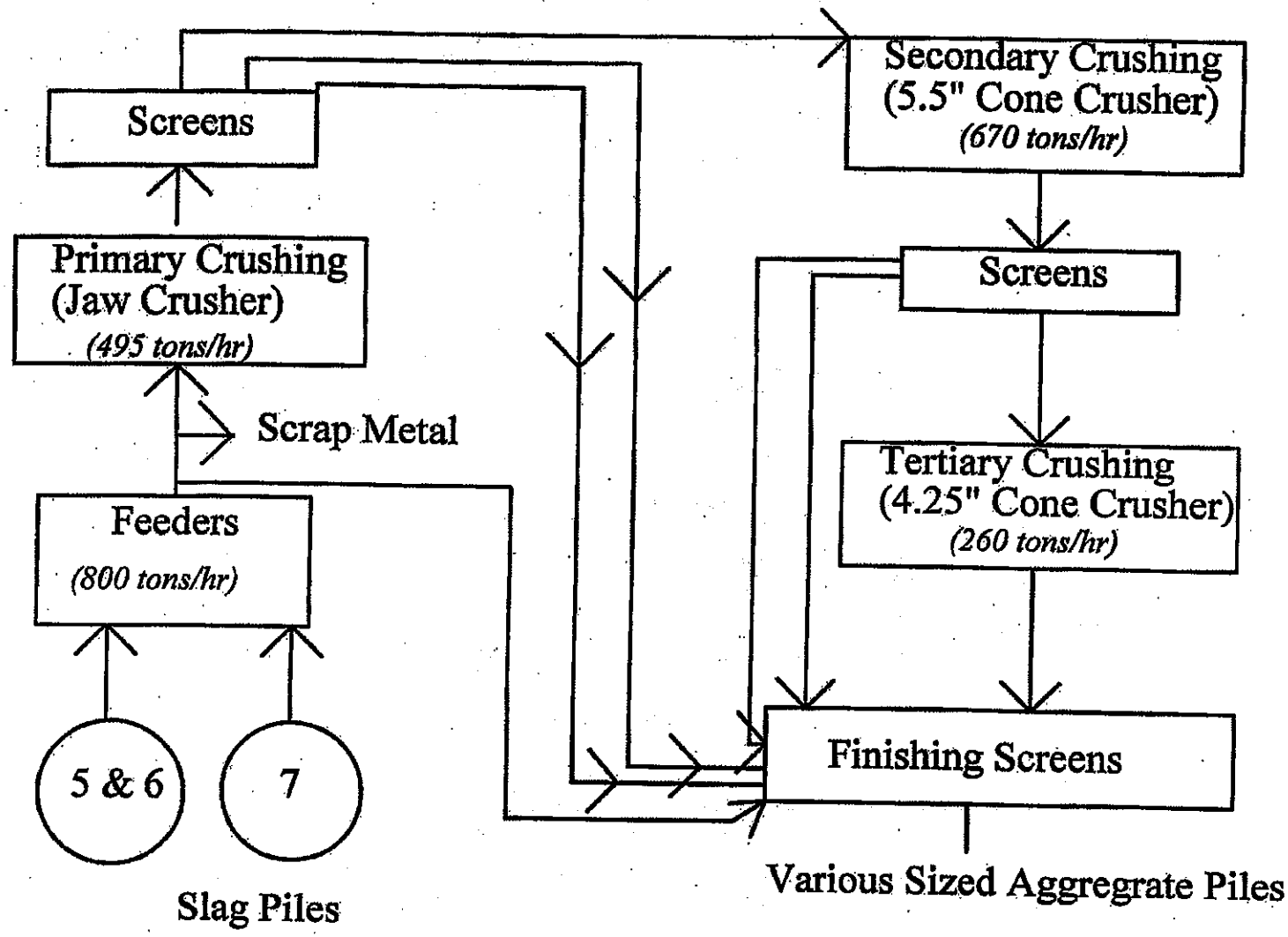

FIGURE 3
FLOW DIAGRAM

Beemsterboer Slag Corp
ArcelorMittal Indiana Harbor East

IES Project No. 51023-01902	Scale: None	Date Prepared: 7/15/08	Prepared by: David Peña

7550 E. Melton Road
Gary, Indiana 46403

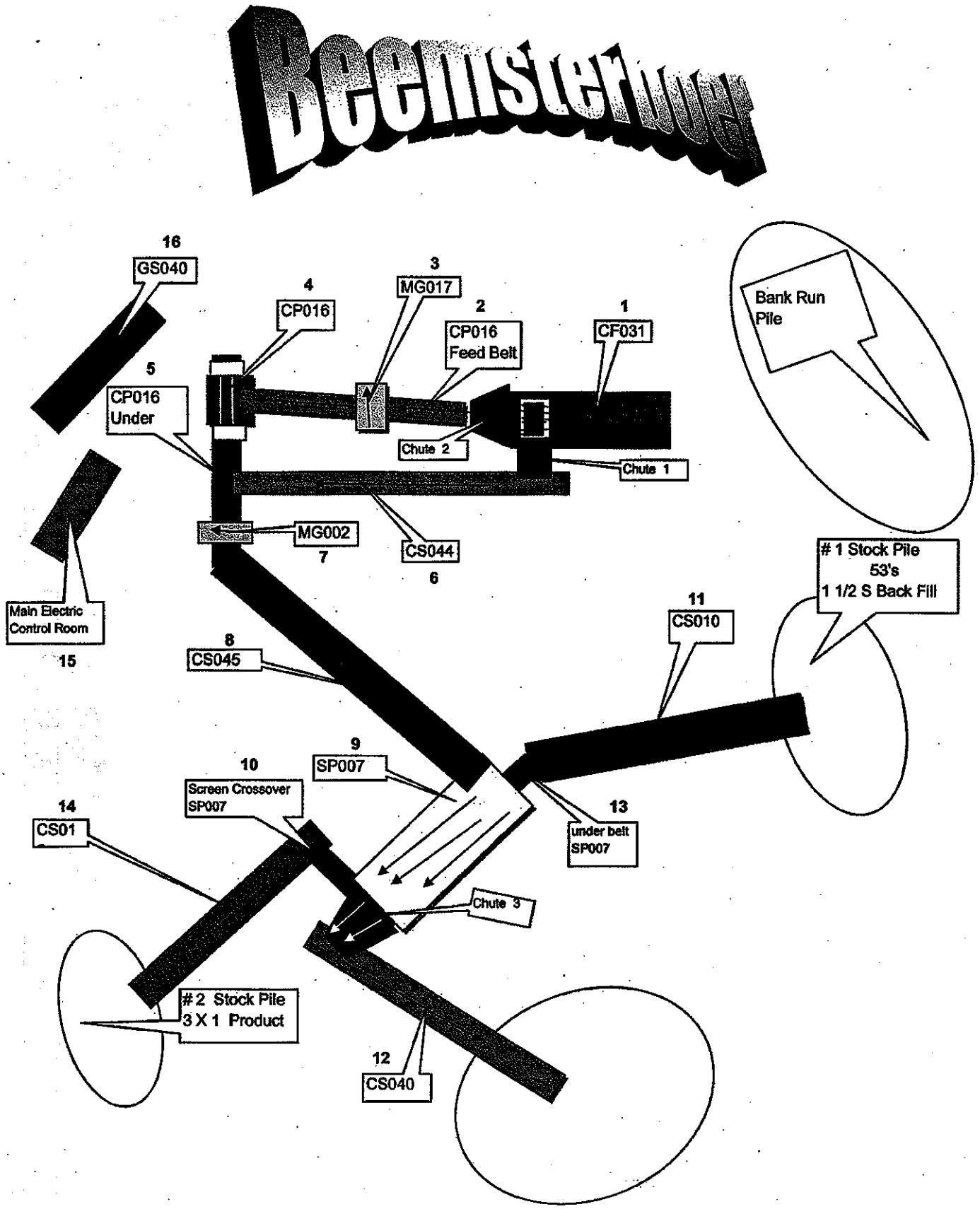

FIGURE 4 - FLOW DIAGRAM FOR LAFARGE PLANT

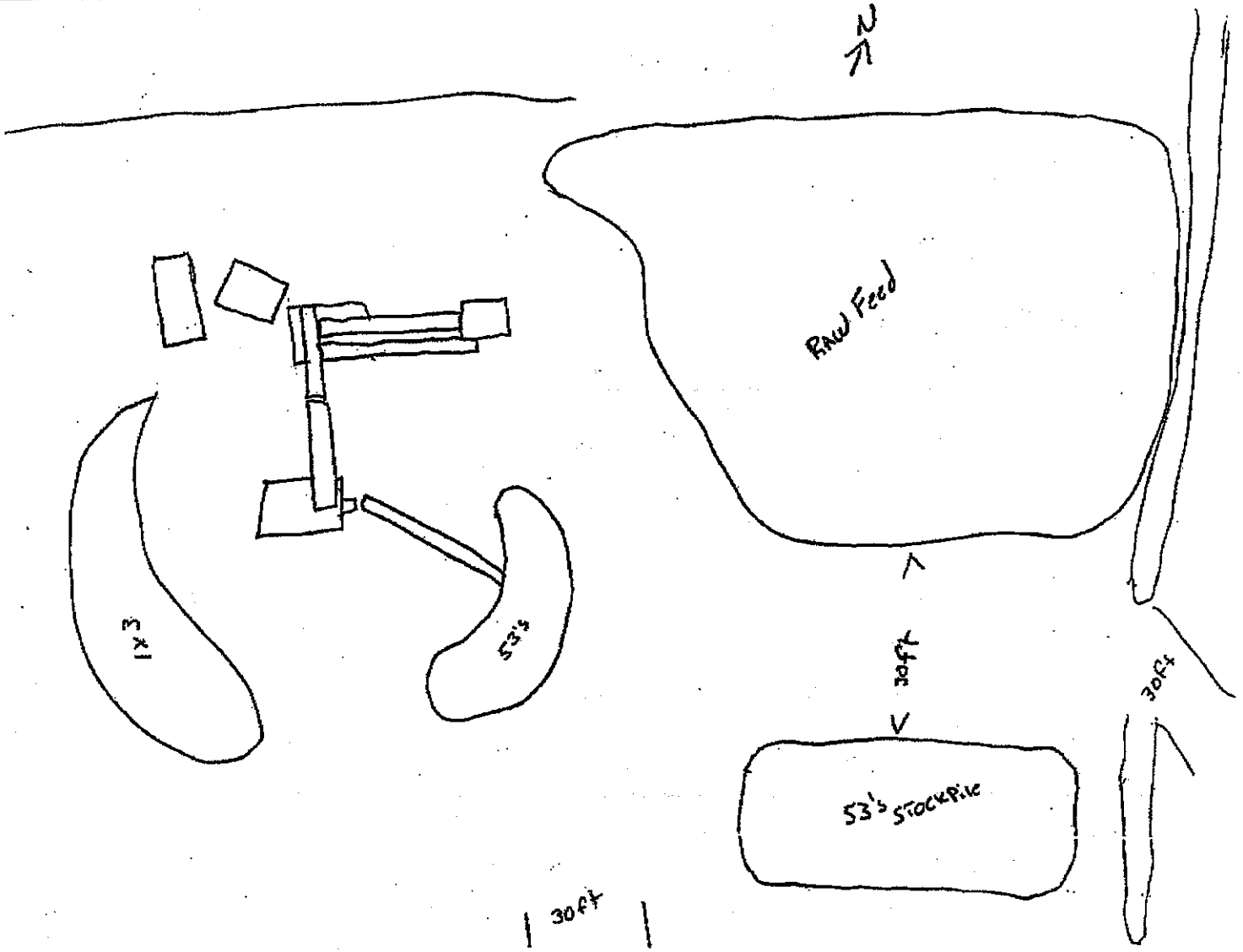

FIGURE 5
LAFARGE PLANT LAYOUT

Beemsterboer Slag Corp
ArcelorMittal Indiana Harbor East

IES Project No. 51023-01902	Scale: None	Date Prepared: 7/15/08	Prepared by: David Peña

7550 E. Melton Road
Gary, Indiana 46403

Indiana Department of Environmental Management
Office of Air Quality

Attachment B

Title 40: Protection of Environment
Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (3) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines,

(ii) The model year listed in table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005 where the stationary CI ICE are:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power.

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

§ 60.4203 How long must my engines meet the emission standards if I am a stationary CI internal combustion engine manufacturer?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the useful life of the engines.

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (c)(1) and (2) of this section.

(1) Reduce nitrogen oxides (NO_X) emissions by 90 percent or more, or limit the emissions of NO_Xin the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (g/KW-hr) (1.2 grams per HP-hour (g/HP-hr)).

(2) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than

or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in paragraphs (d)(1) and (2) of this section.

(1) Reduce NO_Xemissions by 90 percent or more, or limit the emissions of NO_Xin the stationary CI internal combustion engine exhaust to 1.6 grams per KW-hour (1.2 grams per HP-hour).

(2) Reduce PM emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine.

Fuel Requirements for Owners and Operators
§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

(c) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart may petition the Administrator for approval to use remaining non-compliant fuel that does not meet the fuel requirements of paragraphs (a) and (b) of this section beyond the dates required for the purpose of using up existing fuel inventories. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(d) Owners and operators of pre-2011 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the Federal Aid Highway System may petition the Administrator for approval to use any fuels mixed with used lubricating oil that do not meet the fuel requirements of paragraphs (a) and (b) of this section. Owners and operators must demonstrate in their petition to the Administrator that there is no other place to use the lubricating oil. If approved, the petition will be valid for a period of up to 6 months. If additional time is needed, the owner or operator is required to submit a new petition to the Administrator.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

Other Requirements for Owners and Operators
§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in the previous model year?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (f) of this section after the dates specified in paragraphs (a) through (f) of this section.

(h) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and §60.4202(c) using the certification procedures required in 40 CFR part 94 subpart C, and must test their engines as specified in 40 CFR part 94.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 40 CFR 1039.125, 40 CFR 1039.130, 40 CFR 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89 or 40 CFR part 94 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40

CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in part 89, 94 or 1039, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under parts 89, 94, or 1039 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer. You must also meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a

CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and $NO_X$and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit $NO_X$and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under §60.4205 but not §60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (d) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (d) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i= concentration of NO_Xor PM at the control device inlet,

C_o= concentration of NO_Xor PM at the control device outlet, and

R = percent reduction of NO_Xor PM emissions.

(2) You must normalize the NO_Xor PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%O_2} \quad \text{(Eq. 3)}$$

Where:

C_{adj}= Calculated NO_Xor PM concentration adjusted to 15 percent O_2.

C_d= Measured concentration of NO_Xor PM, uncorrected.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

$\%O_2$= Measured O_2concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent $O_2$and CO_2concentration is measured in lieu of O_2concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209_{Fd}}{F_c} \quad \text{(Eq. 4)}$$

Where:

F_o= Fuel factor based on the ratio of O_2volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad \text{(Eq. 5)}$$

Where:

X_{CO2}= CO_2correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

(iii) Calculate the $NO_X$and PM gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad \text{(Eq. 6)}$$

Where:

C_{adj}= Calculated NO_Xor PM concentration adjusted to 15 percent O_2.

C_d= Measured concentration of NO_Xor PM, uncorrected.

$\%CO_2$= Measured CO_2concentration, dry basis, percent.

(e) To determine compliance with the NO_Xmass per unit output emission limitation, convert the concentration of NO_Xin the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{KW\text{-hour}} \quad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d= Measured NO_Xconcentration in ppm.

$1.912x10^{-3}$= Conversion constant for ppm $NO_X$to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-}hour} \quad (Eq. 8)$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj}= Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

Notification, Reports, and Records for Owners and Operators
§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

Special Requirements
§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §60.4205. Non-emergency stationary CI ICE with a

displacement of greater than or equal to 30 liters per cylinder, must meet the applicable emission standards in §60.4204(c).

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI engines located in areas of Alaska not accessible by the Federal Aid Highway System should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) The Governor of Alaska may submit for EPA approval, by no later than January 11, 2008, an alternative plan for implementing the requirements of 40 CFR part 60, subpart IIII, for public-sector electrical utilities located in rural areas of Alaska not accessible by the Federal Aid Highway System. This alternative plan must be based on the requirements of section 111 of the Clean Air Act including any increased risks to human health and the environment and must also be based on the unique circumstances related to remote power generation, climatic conditions, and serious economic impacts resulting from implementation of 40 CFR part 60, subpart IIII. If EPA approves by rulemaking process an alternative plan, the provisions as approved by EPA under that plan shall apply to the diesel engines used in new stationary internal combustion engines subject to this paragraph.

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

(a) Owners and operators of stationary CI ICE that do not use diesel fuel, or who have been given authority by the Administrator under §60.4207(d) of this subpart to use fuels that do not meet the fuel requirements of paragraphs (a) and (b) of §60.4207, may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4202 or §60.4203 using such fuels.

(b) [Reserved]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

Definitions

§ 60.4219 What definitions apply to this subpart?

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

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means either:

(1) The calendar year in which the engine was originally produced, or

(2) The annual new model production period of the engine manufacturer if it is different than the calendar year. This must include January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year. For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was originally produced.

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

Useful life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for useful life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for useful life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X+ NMHC	CO	PM
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

[As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:]

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+[2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1]For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2]For model years 2010–2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3]In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed[1]	Torque (percent)[2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1]Engine speed: ±2 percent of point.

[2]Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_X in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_Xconcentration.
		iv. Measure NO_Xat the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.

For each	Complying with the requirement to	You must	Using	According to the following requirements
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Significant Source Modification and Significant Permit Modification

Source Background and Description

Source Name:	**Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.**
Source Location:	**3210 Watling Street, East Chicago, Indiana 46312**
County:	**Lake**
SIC Code:	**1422**
Operation Permit No.:	**T089-6580-00356**
Operation Permit Issuance Date:	**May 25, 2006**
Significant Source Modification No.:	**089-24137-00356**
Significant Permit Modification No.:	**089-24225-00356**
Permit Reviewer:	**John Haney**

On December 27, 2008, the Office of Air Quality (OAQ) had a notice published in Gary Post Tribune, Merrillville, Indiana, and The Times, Munster, Indiana, stating that Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc. had applied for a significant source modification and significant permit modification to add existing CWOP/OWOP equipment to their Part 70 Operating Permit. The notice also stated that the OAQ proposed to issue a significant source modification and significant permit modification 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

On January 26, 2009, Integrated Environmental Solutions submitted comments to IDEM, OAQ on the draft significant source modification and significant permit modification.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The generator identified in Section D.3.1(g) was misidentified as GS040 and should be designated as GS042. Please revise permit condition D.3.1(g) to read as follows:

*(g) The diesel fuel input to the diesel generator, installed in 2000, identified as ~~GS040~~ **GS042**, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.*

Response to Comment 1:

IDEM agrees with the recommended changes. The permit has been revised as requested above.

Comment 2:

Permit condition D.2.1(a) indicates that the slag input to the crusher (identified as CP007), installed in 1992, shall not exceed 110,300 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Crusher CP007 has been used to crush iron ore pellets and will likely continue in that use for the foreseeable future. Please revise permit condition D.2.1(a) to read as follows:

*(a) The ~~slag~~ **iron ore pellets or other aggregate material** input to the crusher (identified as CP007), installed in 1992, shall not exceed 110,300 tons per (12) consecutive month period, with compliance determined at the end of each month.*

In conjunction with this change, please revise the “Parameter” identified in the Quarterly Report form for Crusher (CP007) from "slag throughput" to "iron ore pellets or other aggregate material throughput".

Response to Comment 2:

IDEM agrees with the recommended changes. Since slag is the most friable aggregate to be processed at the facility (i.e., the softest to crush and therefore the most likely to generate emissions) and all of the crusher emissions were calculated utilizing this worst-case material, the permit limits are already based using the highest amount of aggregate emissions and do not need revised. The permit has been revised as requested above.

Comment 3:

The reporting form for Diesel generator (EU1/GS033) that powers the main slag plant should be listed as Diesel generator (EU1/GS043) which is properly identified in Sections A.3(a) and D.1(a) as One (1) Diesel Generator (EU1/GS043) 1,000 KW (3.43 MMBtu/hr) installed in 2002. Please revise the Quarterly Report form for EU1 to read as follows:

*Facility: Diesel generator (EU1/~~GS033~~ **GS043**)*

Response to Comment 3:

IDEM agrees with the recommended changes. The permit has been revised as requested above.

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**.

IDEM Revision 1:

Pursuant to 326 IAC 6.8-8-1(18)(C), the Permittee shall submit to IDEM, and maintain at the source, a copy of the Continuous Compliance Plan. The Permittee shall perform the inspections, monitoring, and record keeping requirements as specified in 326 IAC 6.8-8-7. The Permittee shall update the CCP (as needed), retain a copy on site, and make the updated CCP available for inspection as specified in 326 IAC 6.8-8-8. IDEM has added Section C.11 to the permit as follows in order to comply with these regulations, and all subsequent C sections have been renumbered.

C.11 Continuous Compliance Plan [326 IAC 6.8-8]

(a) Pursuant to 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 6.8-8-7 or applicable procedures in the CCP.

(b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required, to IDEM, OAQ within thirty (30) days of the update.

(c) Pursuant to 326 IAC 6.8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP, if required, is a violation of 326 IAC 6.8.

*C.~~11~~**12** Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]*

*C.~~12~~**13** Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]*

*C.~~13~~**14** Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]*

*C.~~14~~**15** Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]*

*C.~~15~~**16** Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]*

*C.~~16~~**17** Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]*

*C.~~17~~**18** Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]*

*C.~~18~~**19** General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]*

*C.~~19~~**20** General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]*

*C.~~20~~**21** Compliance with 40 CFR 82 and 326 IAC 22-1*

IDEM Revision 2:

IDEM had previously determined that 40 CFR Part 63, Subpart ZZZZ, applied to this modification. IDEM has since concluded that all of the generator engines with a site rating of greater than 500 brake HP commenced construction before December 19, 2002, and all of the generator engines with a site rating of less than 500 brake HP commenced construction before June 12, 2006. Pursuant to 40 CFR 63.6590(a)(1), all of the generator engines meet the definition of "existing stationary RICE"; therefore, pursuant to 40 CFR 63.6590(b)(3) and 40 CFR 63.6595(a)(1), no initial notification is necessary, and it does not have to comply with the applicable emission limitations and operating limitations.

IDEM has removed Section E.2 from the permit and revised the Table of Contents accordingly.

~~***SECTION E.2 FACILITY OPERATION CONDITIONS***~~

~~***Facility Description [326 IAC 2-7-5(15)]***~~

~~(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;~~

~~(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;~~

~~(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;~~

~~(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;~~

~~(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;~~

~~(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;~~

~~(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;~~

~~(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;~~

~~(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;~~

~~(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;~~

~~(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;~~

~~(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;~~

~~(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;~~

~~(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;~~

~~(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;~~

~~(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;~~

~~(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;~~

~~(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;~~

~~(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;~~

~~(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;~~

~~(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;~~

~~(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;~~

~~(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;~~

~~(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and~~

~~(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]~~

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

~~E.2.1 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]~~

~~(a) The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with schedule in 40 CFR Part 63, Subpart ZZZZ.~~

~~(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:~~

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

~~*E.2.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ]*~~

~~*The Permittee which owns and operates stationary reciprocating internal combustion engines shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C of this permit):*~~

~~*(1) 40 CFR 63.6580;*~~
~~*(2) 40 CFR 63.6585;*~~
~~*(3) 40 CFR 63.6590; and*~~
~~*(4) Table 8 to Subpart ZZZZ of Part 63.*~~

IDEM Contact

(a) Questions regarding this proposed significant source modification and significant permit modification can be directed to John Haney 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) 234-5328 or toll free at 1-800-451-6027 extension 4-5328.

(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 Part 70 Significant Source Modification

Source Description and Location

Source Name:	Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.
Source Location:	3210 Watling Street, East Chicago, IN 46312
Mailing Address:	3411 Sheffield Avenue, Hammond, IN 46327
County:	Lake
SIC Code:	3312
Operation Permit No.:	T 089-6580-00356
Operation Permit Issuance Date:	May 25, 2006
Significant Source Modification No.:	089-24137-00356
Significant Permit Modification No.:	089-24225-00356
Permit Reviewer:	John Haney

Source Definition

ArcelorMittal USA, Inc. is an integrated steel mill consisting of a source with on-site contractors:

(a) ArcelorMittal USA, Inc. (Plant ID 089-00316), the primary operation, is located at 3210 Watling Street, East Chicago, Indiana; and

(b) Beemsterboer Slag Corporation (Plant ID 089-00356), the on-site contractor (a slag crushing and sizing operation), is located at 3210 Watling Street, East Chicago, Indiana.

IDEM has determined that ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation are under the common control of ArcelorMittal USA, Inc. These two plants are considered one source due to contractual control. Therefore, the term “source” in the Part 70 documents refers to both ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation as one source.

Separate Part 70 permits will be issued to ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation solely for administrative purposes. For permitting purposes, ArcelorMittal USA, Inc. is assigned Permit No. 089-6577-00316 and Beemsterboer Slag Corporation is assigned Permit No. 089-6580-00356. Separate Part 70 Operating permits will be issued to ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation solely for administrative purposes.

Existing Approvals

The source was issued Part 70 Operating Permit No. T089-6580-00356 on May 25, 2006.

The source submitted an application for a source modification on December 29, 2006. The source has since received the following approvals:

(a) 1st Significant Source Modification No. 089-25071-00356, issued on October 28, 2008, and

(b) 1st Significant Permit Modification No. 089-25100-00356, issued on November 12, 2008.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O_3	Nonattainment Subpart 2 Moderate effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area for the 1-hour ozone standard which was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM2.5.	

(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.

(i) 1-hour ozone standard

On December 22, 2006 the United States Court of Appeals, District of Columbia issued a decision which served to partially vacate and remand the U.S. EPA's final rule for implementation of the eight-hour National Ambient Air quality Standard for ozone. *South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir., December 22, 2006), *rehearing denied* 2007 U.S. App. LEXIS 13748 (D.C. Cir., June 8, 2007). The U.S. EPA has instructed IDEM to issue permits in accordance with its interpretation of the *South Coast* decision as follows: Gary-Lake-Porter County was previously designated as a severe non-attainment area prior to revocation of the one-hour ozone standard; therefore, pursuant to the anti-backsliding provisions of the Clean Air Act, any new or existing source must be subject to the major source applicability cut-offs and offset ratios under the area's previous one-hour standard designation. This means that a source must achieve the Lowest Achievable Emission Rate (LAER) if it exceeds 25 tons per year of VOC emissions and must offset any increase in VOC emissions by a decrease of 1.3 times that amount.

On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

(ii) 8-hour ozone standard

VOC and NO_x emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

(b) $PM_{2.5}$
U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for $PM_{2.5}$. On March 7, 2005, the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for $PM_{2.5}$ promulgated on May 8, 2008, and effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Lake 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.

(d) Since this source is classified as an integrated steel mill, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(e) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	Greater than 100
PM_{10}	Greater than 100
$PM_{2.5}$	Greater than 100
SO_2	Greater than 100
VOC	Greater than 25
CO	Greater than 100
NO_X	Greater than 100
HAPs	Greater than 25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is a major stationary source, under Emission Offset (326 IAC 2-3), because VOC (a precursor for ozone), a nonattainment regulated pollutant, is emitted at a rate of 100 tons per year or more.

(c) This existing source is a major stationary source, under nonattainment new source review rules (326 IAC 2-1.1-5) since direct $PM_{2.5}$ and SO_2 are emitted at a rate of 100 tons per year or more.

(d) These emissions are based upon Technical Support Document for Part 70 Operating Permit No. T089-6580-00356.

(e) This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2006 OAQ emission data.

Pollutant	**Actual Emissions** (ton/yr)
PM	Not reported
PM_{10}	49
SO_2	2
VOC	1
CO	5
NO_X	25
Total HAPs	Not reported

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc. on December 29, 2006, relating to the addition of existing CWOP/OWOP equipment to their Part 70 Operating Permit. The following is a list of the proposed emission units:

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour;

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour;

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour;

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour;

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour;

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour;

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour;

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour;

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour;

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour;

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour;

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour;

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour;

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour;

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]

Enforcement Issues

IDEM is aware that the equipment listed above has been constructed and operated prior to receipt of the proper permits. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency."

See Appendix B of this Technical Support Document for the detailed emission unit history used to determine the appropriate permit levels under 326 IAC 2-7-10.5. These Part 70 tables reflect the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control.

Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d) because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions. The modification will also be incorporated through a significant permit modification issued pursuant to 326 IAC 2-7-12(d) because the modification requires or changes a case-by-case determination of an emission limitation or other standard. Furthermore, the modification will also be through a significant permit modification issued pursuant to 326 IAC 2-7-12(d) because the modification incorporates applicable portions of the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII) as well as applicable portions of the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ) under Title I of the Clean Air Act (CAA).

Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR

See Appendix B of this Technical Support Document for the detailed emission unit history used to determine the appropriate permit levels under 326 IAC 2-2, 326 IAC 2-3, and 326 IAC 2-1.1-5. These PSD, Emission Offset, and Nonattainment NSR tables summarize the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

This modification to an existing major stationary source is not major because the emissions increases are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increases are less than the Emission Offset and Nonattainment NSR significant levels. Therefore, pursuant to 326 IAC 2-3 and 326 IAC 2-1.1-5, the Emission Offset and Nonattainment NSR requirements do not apply.

Since this source is considered a major EO source and the unrestricted potential to emit of specific modifications prior to 1993 are greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the three (3) diesel generators, installed in 1980, identified as GS011, GS013, and GS015, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The diesel fuel input to the two (2) diesel generators, installed in 1984, identified as GS020 and GS022, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The diesel fuel input to the two (2) diesel generators, installed in 1988, identified as GS025 and GS026, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from each of the 1980, 1984, and 1988 modifications is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x). On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Although Beemsterboer Slag Corporation should have taken a limit of 25 tons per year of NO_x during this period, they could have subsequently revised their limit to 40 tons per year once the NO_x waiver was established. Since this source is considered a major EO source for ozone and the unrestricted potential to emit of specific modifications is greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) Pursuant to Significant Source Modification 089-24137-00356, the diesel fuel input to the diesel generator, installed in 1992 and reinstated in 2002, identified as EU1/GS033, shall be less than 138,879 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The diesel fuel input to the two (2) diesel generators, installed in 1995, identified as GS031 and GS032, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this emission limit will ensure that the potential to emit from each of the 1992 and 1995 modifications is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-3 not applicable.

Since this source is considered a major EO source and the unrestricted potential to emit of specific modifications after 1996 are greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 1998, identified as GS038, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The diesel fuel input to the diesel generator, installed in 1999, identified as GS040, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The diesel fuel input to the diesel generator, installed in 2000, identified as GS040, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Pursuant to Significant Source Modification 089-24137-00356, the diesel fuel input to the diesel generator, installed in 2002, identified as EU1/GS043, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This replaces the existing diesel fuel oil limit of less than 102,367 gallons per 12 consecutive month period as pursuant to Operating Permit T089-6580-00356.

(e) The diesel fuel input to the diesel generator, installed in 2005, identified as GS045, shall be less than 131,528 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from each of the 1998, 1999, 2000, 2002, and 2005 modifications is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-3 not applicable.

Since this source is considered a major PSD source and the unrestricted potential to emit of a specific modification is greater than twenty-five (25) tons of PM per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to Operating Permit T089-6580-00356 issued on May 25, 2006, the slag input to the three crushers (identified as EU2, EU3, and EU4), fourteen (14) conveyors (collectively identified as EU6), four (4) screens (collectively identified as EU5), one feeder box, two magnets, and one crane, installed in 1992, shall be less than 731,308 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The slag input to the crusher (identified as CP007), installed in 1992, shall be less than 110,300 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The slag input to the eleven (11) conveyors (collectively identified as EU6), installed in 2003, shall be less than 5,848,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from each of the 1992 and 2003 modifications is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

VOC De Minimis Determination

See Appendix B of this Technical Support Document for the detailed emission unit history used to establish if the proposed modifications are minor modifications in terms of 326 IAC 2-3 by determining if the VOC emissions increases are de minimis.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this modification:

NSPS:

(a) The diesel generator (GS046) is subject to the New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII), which is incorporated by reference as 326 IAC 12, because the generator's compression ignition (CI) internal combustion engine (ICE) was manufactured after April 1, 2006 and is not a fire pump engine.

Nonapplicable portions of the NSPS will not be included in the permit. The diesel generator (GS046) is subject to the following portions of Subpart IIII:

(1) 40 CFR 60.4200(a)(2)(i);
(2) 40 CFR 60.4204(a);
(3) 40 CFR 60.4206;
(4) 40 CFR 60.4207;
(5) 40 CFR 60.4208;
(6) 40 CFR 60.4209;
(7) 40 CFR 60.4211(a) and (b);
(8) 40 CFR 60.4212;
(9) 40 CFR 60.4214;
(10) 40 CFR 60.4218;
(11) 40 CFR 60.4219;
(12) Table 1 to Subpart IIII of Part 60;
(13) Table 7 to Subpart IIII of Part 60; and
(14) Table 8 to Subpart IIII of Part 60.

NESHAP:

(b) All of the generators at this source are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), which is incorporated by reference as 326 IAC 12, because they use internal combustion engines which use reciprocating motion and which are not mobile.

Nonapplicable portions of the NSPS will not be included in the permit. The reciprocating internal combustion engines (RICE) listed in Table 1 below are subject to the following portions of Subpart ZZZZ:

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585;
(3) 40 CFR 63.6590(a); and
(4) Table 8 to Subpart ZZZZ of Part 63.

Since Beemsterboer is considered a major source of HAP emissions, the stationary RICE will have to meet the following requirements:

Table 1: Stationary RICE Regulatory Requirements

Type	Size	Commenced Construction/ Reconstruction Date	Requirements
Spark ignition 2 stroke lean burn (2SLB)	≥ 500 hp	before December 19, 2002	Does not have to meet the requirements of this subpart and of subpart A of this part; no initial notification is necessary
Spark ignition 4 stroke lean burn (4SLB)			
Compression ignition (CI)			
Emergency or limited use			
Spark ignition 4 stroke rich burn (4SRB)	≤ 500 hp	before June 12, 2006	
Spark ignition 2 stroke lean burn (2SLB)			
Spark ignition 4 stroke lean burn (4SLB)			
Compression ignition (CI)			
Emergency or limited use			
Emergency or limited use	≥ 500 hp	after December 19, 2002	Does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of 40 CFR 63.6645(h)
Spark ignition 4 stroke rich burn (4SRB)	≤ 500 hp	after June 12, 2006	Must meet the requirements of this part by meeting the requirements of 40 CFR 60, Subpart IIII for compression ignition engines or 40 CFR 60, Subpart JJJJ for spark ignition engines
Spark ignition 2 stroke lean burn (2SLB)	≤ 500 hp		
Spark ignition 4 stroke lean burn (4SLB)	≤ 250 hp		
Compression ignition (CI)	≤ 500 hp		
Emergency or limited use	≤ 500 hp		

The provisions of 40 CFR 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart ZZZZ.

CAM:

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant; and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

Control devices are not used for any unit in this modification. Therefore, the requirements of 40 CFR Part 64, CAM are not applicable to any of the new units as part of this modification.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-1.1-5 (Nonattainment New Source Review)
The Source is taking limits to make this a minor modification under 326 IAC 2-1.1-5. Nonattainment New Source Review (NSR) applicability is discussed in greater detail under the Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR section.

326 IAC 2-2 (PSD)
The Source is taking limits to make this a minor modification under 326 IAC 2-2. PSD applicability is discussed in greater detail under the Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR section.

326 IAC 2-3 (Emission Offset)
The Source is taking limits to make this a minor modification under 326 IAC 2-3. Emission Offset applicability is discussed in greater detail under the Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of each of the modifications will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-7-5(13) (Preventive Maintenance Plan)
Pursuant to 326 IAC 2-7-5(13), a Preventive Maintenance Plan is required for the emission units and the emission control devices.

326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of twenty percent (20%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
This modification is not subject to the requirements of 326 IAC 6-3 because the facility is subject to the requirements of 326 IAC 6.8-1-2 (Lake County: PM_{10} Emission Requirements). Pursuant to the applicability requirements (326 IAC 6-3-1(b)), if any limitation established by this rule is inconsistent with applicable limitations contained in 326 IAC 6.8-1 (Lake County: PM_{10} Emission Requirements) or 326 IAC 12 (New Source Performance Standards), then the limitations contained in 326 IAC 6.8-1 or 326 IAC 12 prevail.

326 IAC 6-4 (Fugitive Dust Emissions)
The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

326 IAC 6.8-1-2 (Lake County: PM_{10} Emission Requirements)

(a) Pursuant to 326 IAC 6.8-1-2(a), the following emission units shall not exceed 0.03 gr/dscf of particulate matter less than ten microns in diameter (PM_{10}):

Storage Piles, Truck Loading & Unloading, Transporting (Road Emissions), Conveyor Feeder (CF017), Conveyor Stacker (CS003), Screen (SP001), Screen (SP002), Conveyor Feeder (CF024), Screen (SP005), Conveyor Stacker (CS035), Conveyor Stacker (CS018), Conveyor Stacker (CS006), Conveyor Stacker (CS012), Screen (SP007), Conveyor Shuttle (SH010), Conveyor Shuttle (SH013), Conveyor Feeder (CF013), Conveyor Stacker (CS028), Conveyor Shuttle (SH007), Conveyor Shuttle (SH008), Conveyor Shuttle (SH016), Conveyor Stacker (CS033), Conveyor Stacker (CS015), Conveyor Stacker (CS026), Conveyor Shuttle (SH001), Screen (SP003), Screen (SP008), Conveyor Feeder (CF008), Conveyor Feeder (CF009), Conveyor Stacker (CS011), Conveyor Stacker (CS032), Screen (SP014), Conveyor Feeder (BH004), Conveyor Feeder (CF011), Conveyor Shuttle (SH006), Conveyor Shuttle (SH011), Conveyor Stacker (CS021), Conveyor Feeder (CF012), Conveyor Feeder (CF022), Conveyor Stacker (CS030), Conveyor Shuttle (SH012), Conveyor Feeder (CF010), Conveyor Stacker (CS023), Conveyor Stacker (CS025), Crusher (CP005), Conveyor Stacker (CS005), Conveyor Shuttle (SH005), Conveyor Shuttle (SH052), Screen (SP009), Conveyor Feeder (CF014), Conveyor Stacker (CS029), Conveyor Feeder (CF007), Crusher (CP007), Conveyor Feeder (CF026), Conveyor Feeder (CF031), Conveyor Feeder (CF032), Conveyor Stacker (CS036), Conveyor Stacker (CS038), Conveyor Stacker (CS040), Conveyor Shuttle (SH040), Conveyor Shuttle (SH041), Conveyor Shuttle (SH042), Conveyor Shuttle (SH043), Screen (SP004), Screen (SP006), Conveyor Feeder (CF034), Conveyor Stacker (CS039), Conveyor Stacker (CS041), Conveyor Stacker (CS044), Conveyor Stacker (CS045), Conveyor Shuttle (SH049), Conveyor Feeder (CF036), Crusher (CP014), Pugmill (PG004), Conveyor Shuttle (SH050), Conveyor Shuttle (SH051), Conveyor Shuttle (SH054), Screen (SP027), Conveyor Feeder (CF025), Crusher (CP012), Conveyor Stacker (CS043), Screen (SP033), and Screen (SP034).

(b) Pursuant to 326 IAC 6.8-1-2(a), the following emission units shall not exceed 0.03 gr/dscf of particulate matter less than ten microns in diameter (PM_{10}):

200 kW Generator (GS004), 155 kW Generator (GS011), 100 kW Generator (GS013), 105 kW Generator (GS015), 60 kW Generator (GS016), 135 kW Generator (GS017), 25 kW Generator (GS019), 180 kW Generator (GS020), 125 kW Generator (GS022), 40 kW Generator (GS021), 150 kW Generator (GS023), 180 kW Generator (GS024), 175 kW Generator (GS025), 180 kW Generator (GS026), 40 kW Generator (GS029), 40 kW Generator (GS030), 105 kW Generator (GS031), 125 kW Generator (GS032), 40 kW Generator (GS035), 600 kW Generator (GS038), 600 kW Generator (GS040), 320 kW Generator (GS042), 600 kW Generator (EU1/GS033), 250 kW Generator (GS045), and 200 kW Generator (GS046).

326 IAC 6.8-10 (Lake County Fugitive Particulate Matter)

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), the particulate matter emissions from source wide activities shall meet the following requirements:

(1) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(2) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(3) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(4) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(5) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(6) There shall be a zero (0) percent frequency of visible emission observations of a material during the in plant transportation of material by truck or rail at any time.

(7) The opacity of fugitive particulate emissions from the in plant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(8) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(9) The PM_{10} emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(10) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(11) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

(12) PM_{10} emissions from each material processing stack shall not exceed 0.022 grains per dry standard cubic foot and ten percent (10%) opacity.

(13) Fugitive particulate matter from the material processing facilities shall not exceed ten percent (10%) opacity.

(14) Slag and kish handling activities at integrated iron and steel plants shall comply with the following particulate emissions limits:

(A) The opacity of fugitive particulate emissions from transfer from pots and trucks into pits shall not exceed twenty percent (20%) on a six (6) minute average.

(B) The opacity of fugitive particulate emissions from transfer from pits into front end loaders and from transfer from front end loaders into trucks shall comply with the fugitive particulate emission limits in 326 IAC 6.8-10-3(9).

Material processing facilities include crushers, screens, grinders, mixers, dryers, belt conveyors, bucket elevators, bagging operations, storage bins, and truck or railroad car loading stations.

(b) The Permittee shall achieve these limits by controlling fugitive particulate matter emissions according to the Fugitive Dust Control Plan, submitted on November 22, 1993.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 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 2-7-5. 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.

The Compliance Determination and Monitoring Requirements applicable to this modification are as follows:

(1) Particulate Control
In order to ensure compliance with Conditions D.2.1 and D.2.2, the Permittee shall apply an initial application of water or a mixture of water and wetting agent to control the PM, PM_{10} and $PM_{2.5}$ emissions from the crusher and the conveyors. The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Conditions D.2.1 and D.2.2. If weather conditions preclude the use of wet suppression, the Permittee shall perform chemical analysis on the metallurgical material to ensure it has a moisture content greater than 1.5 percent of the process stream by weight. The Permittee shall submit to IDEM, OAQ the method for moisture content analysis for approval.

(2) Particulate Matter (PM)
Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

Opacity from the activities shall be determined as follows:

(a) Paved Roads and Parking Lots
The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(b) Unpaved Roads and Parking
The fugitive particulate emissions from unpaved roads shall be controlled by the implementation of a work program and work practice under the fugitive dust control plan.

(c) Batch Transfer
The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(d) Continuous Transfer
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. The opacity readings shall be taken at least four (4) feet from the point of origin.

(e) Wind Erosion from Storage Piles
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply during periods when applications of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company must continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(f) Wind Erosion from Exposed Areas
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

(g) Material Transported by Truck or Rail
Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the in plant transportation requirement.

(h) Material Transported by Front End Loader or Skip Hoist
Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet from the plume approximately and at right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(i) Material Processing Limitations
Compliance with all opacity limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 9. Compliance with all visible emissions limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 22. Compliance with all particulate matter limitations from material processing equipments shall be determined using 40 CFR 60, Appendix A, Method 5 or 17.

(3) Visible Emissions Notations

(a) Visible emissions notations of the exhausts from the slag crushing and sizing operations listed in Section D.2 shall be performed once per day during normal daylight operations. A trained employee will 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 is an employee who has worked 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 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.

These determination and monitoring conditions are necessary because fugitive dust must be properly controlled to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 2-1.1-5 (Nonattainment NSR), 326 IAC 6-4 (Fugitive Dust Emissions), 326 IAC 6.8 (Particulate Matter Limitations for Lake County), and 326 IAC 2-7 (Part 70).

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 089-6580-00356. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

(a) The description of diesel generator EU1 (now identified as GS043) has been clarified in order to distinguish it from generator EU1 that was installed in 1992 (now identified as GS033), which is listed in the newly added Section D.3. The descriptive information in Condition D.1.2(a) has been clarified. The synthetic minor limit for generator EU1/GS043 had been incorrectly listed as the same for generator EU1/GS033. Since the Emission Offset significant level for the generator installed in 2002 is 40 tons per year of NO_x instead of 25 tons per year of NO_x for the generator installed in 1992, the synthetic minor limit needs to be modified. The Section D.1 descriptive information and Conditions D.1.1 and D.1.2 have been revised accordingly. The compliance determination requirements for Condition D.1.4 should also reference 326 IAC 2-2 since they are used to meet the PSD requirements; Condition D.1.4 has been revised accordingly. Condition D.1.3 has been removed, and the remaining conditions have been renumbered accordingly.

SECTION D.1 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operation
Facility Description [326 IAC 2-7-5(15)]:
*(a) One (1) Diesel Generator (EU1**/GS043**) 1,000 KW (3.43 MMBtu/hr) installed in 2002;*
...

*(h) Twenty-five (25) conveyors (EU6) with maximum capacity of 800 tons/hr installed in **1992 and** 2003*

*D.1.1 ~~Nonattainment Area~~ Particulate **Matter** Limitations **for Lake County** [326 IAC 6.8-1-2]*

*Pursuant to 326 IAC 6.8-1-2 ~~(formerly 326 IAC 6-1-2)~~ (~~Nonattainment Area~~ Particulate **Matter** Limitations **for Lake County**), the ~~particulate matter emissions from the Diesel Generator (EU1)~~ **following emission units** shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf)~~.~~ **of particulate matter less than ten (10) microns in diameter (PM_{10}):***

Storage Piles, Truck Loading & Unloading, Transporting (Road Emissions), Feeder Box, one (1) Jaw Crusher (EU2), two (2) Cone Crushers (EU3 and EU4), four (4) Screens (EU5), two (2) Magnets, one (1) Electromagnetic Crane, fourteen (14) conveyors (EU6), and Diesel Generator (EU1).

D.1.2 Prevention of Significant Deterioration (PSD) and Emission Offset [326 IAC 2-2] [326 IAC 2-3]

*(a) The input of steel mill slag to the portable crushing, screening and conveying plant **consisting of: Feeder Box, one (1) Jaw Crusher (EU2), two (2) Cone Crushers (EU3 and EU4), four (4) Screens (EU5), two (2) Magnets, one (1) Electromagnetic Crane, and fourteen (14) conveyors (EU6)** shall be less than 731,308 tons per twelve (12) consecutive month period with compliance demonstrated at the end of each month. This will ensure limiting particulate matter emissions from the entire plant to less than 25 tons per year and that of ~~PM10~~ **PM_{10}** emissions to less than 15 tons per year, including fugitives. Therefore, the requirements of 326 IAC 2-2 (PSD) ~~and 326 IAC 2-3 (Emission Offset)~~ do not apply.*

*(b) ~~Pursuant to CP 089-3116 issued on May 13, 1994, the diesel fuel oil used at Diesel Generator EU1 and Jaw Crusher internal combustion engine is limited to less than 102,367 gallons per 12 consecutive month period with compliance demonstrated at the end of each month.~~ **The diesel fuel input to the diesel generator, installed in 2002, identified as EU1/GS043, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.** This will result in the total amount of nitrogen oxides (~~NOx~~ **NO_x**) emitted from combustion of diesel fuel oil by ~~the~~ generator **(EU1/GS043)** ~~and the jaw crusher internal combustion engine~~ to be less than ~~or equal to 24.0~~ **40** tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) do not apply.*

(c) The slag input to the eleven (11) conveyors (collectively identified as EU6), installed in 2003, shall be less than 5,848,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

~~D.1.3 PM/PM10 Emissions [326 IAC 2-2] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]~~

~~The IDEM has information that indicates that the Feeder Box, Jaw Crusher, Cone Crushers, Screens, Magnets, Crane and Conveyors may be subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) or 326 IAC 2-3 (Emission Offset). Therefore, the Permit Shield provided by Condition B.13 of this permit does not apply to these units with regards to 326 IAC 2-2 (PSD) and 326 IAC 2-3 (EO). The OAQ will promptly reopen this permit using the provisions of 326 IAC 2-7-9 (Permit Reopening) to include detailed requirements necessary to comply with 326 IAC 2-2 (PSD) and 326 IAC 2-3 (EO) and a schedule for achieving compliance with such requirements.~~

*D.1.~~4~~**3** Particulate Matter (PM) [326 IAC 6.8-10] **[326 IAC 2-2]***

Pursuant to 326 IAC 6.8-10 ~~(formerly 326 IAC 6-1-11.1)~~ (Lake County Fugitive Particulate Matter Control Requirements), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not

demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

...

*D.1.~~5~~**4** Visible Emissions Notations*

...

*D.1.~~6~~**5** Record Keeping Requirements*

...

*(c) To document compliance with Condition D.1.~~5~~**4**, the Permittee shall maintain records of visible emission notations of the feeder box, the screens, crushers and the conveyor transfer points stack exhaust once per day. 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).*

(d) Pursuant to 326 IAC 6.8-10 ~~(formerly 326 IAC 6-1-11.1)~~ (Lake County Fugitive Particulate Matter Control Requirements):

...

(3) For application of physical or chemical control agents not covered by 326 IAC 6.8-10-1 ~~(formerly 326 IAC 6-1-11.1)~~, the following:

...

*D.1.~~7~~**6** Reporting Requirements*

(a) Pursuant to 326 IAC 6.8-10 ~~(formerly 326 IAC 6-1-11.1)~~ (Lake County Fugitive Particulate Matter Control Requirements), a quarterly report shall be submitted, stating the following:

...

(b) Sections D.2, D.3, E.1, and E.2 have been added to the permit. The original Section D.2 has been renumbered as Section D.4; various citations within Section D.4 have also been renumbered. The facility descriptions and the mailing addresses on the reporting forms have been clarified; additional required reporting forms have been added to the permit. The Table of Contents and Section A.3 have been revised accordingly.

SECTION D.2 FACILITY OPERATION CONDITIONS - Slag Crushing and Sizing Operations

Facility Description [326 IAC 2-7-5(15)]

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour;

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour;

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour;

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour;

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour;

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour;

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour;

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour;

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour;

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour;

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour;

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour;

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour;

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour;

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour;

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour;

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour;

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour;

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour;

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour;

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour; and

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR):

(a) The slag input to the crusher (identified as CP007), installed in 1992, shall be less than 110,300 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limitation will ensure that the potential to emit from these modifications are less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than ten (10) tons of $PM_{2.5}$ per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for Significant Source Modification No. 089-24137-00356.

D.2.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), the following emission units shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf) of particulate matter less than ten (10) microns in diameter (PM_{10}):

Storage Piles, Truck Loading & Unloading, Transporting (Road Emissions), Conveyor Feeder (CF017), Conveyor Stacker (CS003), Screen (SP001), Screen (SP002), Conveyor Feeder (CF024), Screen (SP005), Conveyor Stacker (CS035), Conveyor Stacker (CS018), Conveyor Stacker (CS006), Conveyor Stacker (CS012), Screen (SP007), Conveyor Shuttle (SH010), Conveyor Shuttle (SH013), Conveyor Feeder (CF013), Conveyor Stacker (CS028), Conveyor Shuttle (SH007), Conveyor Shuttle (SH008), Conveyor Shuttle (SH016), Conveyor Stacker (CS033), Conveyor Stacker (CS015), Conveyor Stacker (CS026), Conveyor Shuttle (SH001), Screen (SP003), Screen (SP008), Conveyor Feeder (CF008), Conveyor Feeder (CF009), Conveyor Stacker (CS011), Conveyor Stacker (CS032), Screen (SP014), Conveyor Feeder (BH004), Conveyor Feeder (CF011), Conveyor Shuttle (SH006), Conveyor Shuttle (SH011), Conveyor Stacker (CS021), Conveyor Feeder (CF012), Conveyor Feeder (CF022), Conveyor Stacker (CS030), Conveyor Shuttle (SH012), Conveyor Feeder (CF010), Conveyor Stacker (CS023), Conveyor Stacker (CS025), Crusher (CP005), Conveyor Stacker (CS005), Conveyor Shuttle (SH005), Conveyor Shuttle (SH052), Screen (SP009), Conveyor Feeder (CF014), Conveyor Stacker (CS029), Conveyor Feeder (CF007), Crusher (CP007), Conveyor Feeder (CF026), Conveyor Feeder (CF031), Conveyor Feeder (CF032), Conveyor Stacker (CS036), Conveyor Stacker (CS038), Conveyor Stacker (CS040), Conveyor Shuttle (SH040), Conveyor Shuttle (SH041), Conveyor Shuttle (SH042), Conveyor Shuttle (SH043), Screen (SP004), Screen (SP006), Conveyor Feeder (CF034), Conveyor Stacker (CS039), Conveyor Stacker (CS041), Conveyor Stacker (CS044), Conveyor Stacker (CS045), Conveyor Shuttle (SH049), Conveyor Feeder (CF036), Crusher (CP014), Pugmill (PG004), Conveyor Shuttle (SH050), Conveyor Shuttle (SH051), Conveyor Shuttle (SH054), Screen (SP027), Conveyor Feeder (CF025), Crusher (CP012), Conveyor Stacker (CS043), Screen (SP033), and Screen (SP034).

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Compliance Determination Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.4 Particulate Control [326 IAC 2-2]

In order to ensure compliance with Conditions D.2.1 and D.2.2, the Permittee shall apply an initial application of water or a mixture of water and wetting agent to control the PM, PM_{10} and $PM_{2.5}$ emissions from the slag crushing and sizing operations. The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Conditions D.2.1 and D.2.2. If weather conditions preclude the use of wet suppression, the Permittee shall perform chemical analysis on the metallurgical material to ensure it has a moisture content greater than 1.5 percent of the process stream by weight. The Permittee shall submit to IDEM, OAQ the method for moisture content analysis for approval.

D.2.5 Particulate Matter (PM) [326 IAC 6.8-10] [326 IAC 2-2]

Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), compliance with the opacity limits specified in Condition C.5 shall be achieved by controlling fugitive particulate matter emissions according to the revised Fugitive Dust Control Plan (FDCP). If it is determined that the control procedures specified in the FDCP do not demonstrate compliance with the fugitive emission limitations, IDEM, OAQ may request that the FDCP be revised and submitted for approval.

Opacity from the activities shall be determined as follows:

(a) Paved Roads and Parking Lots

The average instantaneous opacity shall be the average of twelve (12) instantaneous opacity readings, taken for four (4) vehicle passes, consisting of three (3) opacity readings for each vehicle pass. The three (3) opacity readings for each vehicle pass shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(b) Unpaved Roads and Parking
The fugitive particulate emissions from unpaved roads shall be controlled by the implementation of a work program and work practice under the fugitive dust control plan.

(c) Batch Transfer
The average instantaneous opacity shall consist of the average of three (3) opacity readings taken five (5) seconds, ten (10) seconds, and fifteen (15) seconds after the end of one (1) batch loading or unloading operation. The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume.

(d) Continuous Transfer
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9. The opacity readings shall be taken at least four (4) feet from the point of origin.

(e) Wind Erosion from Storage Piles
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9, except that the opacity shall be observed at approximately four (4) feet from the surface at the point of maximum opacity. The observer shall stand approximately fifteen (15) feet from the plume and at approximately right angles to the plume. The limitations may not apply during periods when applications of fugitive particulate control measures are either ineffective or unreasonable due to sustained very high wind speeds. During such periods, the company must continue to implement all reasonable fugitive particulate control measures and maintain records documenting the application of measures and the basis for a claim that meeting the opacity limitation was not reasonable given prevailing wind conditions.

(f) Wind Erosion from Exposed Areas
The opacity shall be determined using 40 CFR 60, Appendix A, Method 9.

(g) Material Transported by Truck or Rail
Compliance with this limitation shall be determined by 40 CFR 60, Appendix A, Method 22, except that the observation shall be taken at approximately right angles to the prevailing wind from the leeward side of the truck or railroad car. Material transported by truck or rail that is enclosed and covered shall be considered in compliance with the in plant transportation requirement.

(h) Material Transported by Front End Loader or Skip Hoist
Compliance with this limitation shall be determined by the average of three (3) opacity readings taken at five (5) second intervals. The three (3) opacity readings shall be taken as follows:

(1) The first will be taken at the time of emission generation.

(2) The second will be taken five (5) seconds later.

(3) The third will be taken five (5) seconds later or ten (10) seconds after the first.

The three (3) readings shall be taken at the point of maximum opacity. The observer shall stand at least fifteen (15) feet from the plume approximately and at right angles to the plume. Each reading shall be taken approximately four (4) feet above the surface of the roadway or parking area.

(i) Material Processing Limitations
Compliance with all opacity limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 9. Compliance with all visible emissions limitations from material processing equipment shall be determined using 40 CFR 60, Appendix A, Method 22. Compliance with all particulate matter limitations from material processing equipments shall be determined using 40 CFR 60, Appendix A, Method 5 or 17.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.6 Visible Emissions Notations

(a) Visible emissions notations of the exhausts from the slag crushing and sizing operations listed in Section D.2 shall be performed once per day during normal daylight operations. A trained employee will 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 is an employee who has worked 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 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.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.7 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the slag input to the crusher (identified as CP007) monthly.

(b) To document compliance with Condition D.2.6, the Permittee shall maintain records of visible emission notations of the slag crushing and sizing operations listed in

Section D.2 once per day. 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) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter):

The source shall keep the following documentation to show compliance with each of its control measures and control practices:

(1) A map or diagram showing the location of all emission sources controlled, including the location, identification, length, and width of roadways.

(2) For each application of water or chemical solution to roadways, the following shall be recorded:

(A) The name and location of the roadway controlled;

(B) Application rate;

(C) Time of each application;

(D) Width of each application;

(E) Identification of each method of application;

(F) Total quantity of water or chemical used for each application;

(G) For each application of chemical solution, the concentration and identity of the chemical; and

(H) The material data safety sheets for each chemical.

(3) For application of physical or chemical control agents not covered by 326 IAC 6.8-10-1, the following:

(A) The name of the agent;

(B) Location of application;

(C) Application rate;

(D) Total quantity of agent used;

(E) If diluted, percent of concentration; and

(F) The material data safety sheets for each chemical.

(4) A log recording incidents when control measures were not used and a statement of explanation.

(5) Copies of all records required by this section shall be submitted to the department within twenty (20) working days of a written request by the department.

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.8 Reporting Requirements

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), a quarterly report shall be submitted, stating the following:

(1) The dates any required control measures were not implemented.

(2) A listing of those control measures.

(3) The reasons that the control measures were not implemented.

(4) Any corrective action taken.

(b) A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted 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.

(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.3 FACILITY OPERATION CONDITIONS - Generators

Facility Description [326 IAC 2-7-5(15)]

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 PSD and Emission Offset Minor Limit [326 IAC 2-2] [326 IAC 2-3]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset):

(a) The diesel fuel input to the three (3) diesel generators, installed in 1980, identified as GS011, GS013, and GS015, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The diesel fuel input to the two (2) diesel generators, installed in 1984, identified as GS020 and GS022, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The diesel fuel input to the two (2) diesel generators, installed in 1988, identified as GS025 and GS026, shall be less than 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The diesel fuel input to the two (2) diesel generators, installed in 1995, identified as GS031 and GS032, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) The diesel fuel input to the diesel generator, installed in 1998, identified as GS038, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(f) The diesel fuel input to the diesel generator, installed in 1999, identified as GS040, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(g) The diesel fuel input to the diesel generator, installed in 2000, identified as GS040, shall be less than 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(h) Pursuant to Significant Source Modification No. 089-24137-00356, the diesel fuel input to the diesel generator, installed in 1992 and reinstated in 2002, identified as EU1/GS033, shall be less than 138,879 gallons per 12 consecutive month period, with compliance demonstrated at the end of each month.

(i) The diesel fuel input to the diesel generator, installed in 2005, identified as GS045, shall be less than 131,528 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limitations will ensure that the potential to emit from these modifications are less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, and less than forty (40) tons of NO_x per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) are rendered not applicable for Significant Source Modification No. 089-24137-00356.

D.3.2 Particulate Matter Less Than 10 Microns in Diameter (PM_{10}) [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2 (Particulate Matter Limitations for Lake County), the following emission units shall not exceed 0.03 grains per dry standard cubic foot (gr/dscf) of particulate matter less than ten (10) microns in diameter (PM_{10}):

200 kW Generator (GS004), 155 kW Generator (GS011), 100 kW Generator (GS013), 105 kW Generator (GS015), 60 kW Generator (GS016), 135 kW Generator (GS017), 25 kW Generator (GS019), 180 kW Generator (GS020), 125 kW Generator (GS022), 40 kW Generator (GS021), 150 kW Generator (GS023), 180 kW Generator (GS024), 175 kW Generator (GS025), 180 kW Generator (GS026), 40 kW Generator (GS029), 40 kW Generator (GS030), 105 kW Generator (GS031), 125 kW Generator (GS032), 40 kW Generator (GS035), 600 kW Generator (GS038), 600 kW Generator (GS040), 320 kW Generator (GS042), 600 kW Generator (EU1/GS033), 250 kW Generator (GS045), and 200 kW Generator (GS046).

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its emission control devices.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.4 Record Keeping Requirements

(a) To document compliance with Condition D.3.1, the Permittee shall maintain records of the diesel fuel input to the diesel generators monthly.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.5 Reporting Requirements

(a) A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted 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.

(b) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

*SECTION D.~~2~~**4** FACILITY OPERATION CONDITIONS - LaFarge Plant*

Facility Description [326 IAC 2-7-5(15)]

*~~(i)~~ **(fffff)** One (1) slag crushing plant, approved for construction in 2008, identified as LaFarge Crushing Plant, with PM controlled by wet suppression, and consisting of the following new equipment:*

(1) One (1) jaw crusher, identified as jaw crusher CP016, with a maximum capacity of 420 tons per hour.

(2) One (1) feed belt, identified as feed belt CP016, with a maximum capacity of 693.72 tons per hour.

(3) One (1) under belt, identified as under belt CP016, with a maximum capacity of 1,040.58 tons per hour.

(4) One (1) over belt magnet, identified as MG017.

(5) One (1) electrical control room.

(6) Associated storage piles, loading and unloading of trucks, and road traffic.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

*D.~~2~~**4**.1 PSD and Nonattainment NSR Minor Limit [326 IAC 2-2] [326 IAC 2-1.1-5]*

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR):

(a) The total amount of slag processed at the LaFarge Plant shall not exceed 850,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

*Compliance with this limitation will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than ten (10) tons of ~~PM2.5~~ **$PM_{2.5}$** per year. Therefore, the requirements of 326 IAC 2-2 (PSD) and 326 IAC 2-1.1-5 (Nonattainment NSR) are rendered not applicable for Significant Source Modification No. 089-25071-00356.*

*D.~~2~~**4**.2 Particulate Matter Less Than 10 Microns in Diameter (~~PM10~~ **PM_{10}**) [326 IAC 6.8-1-2]*

*Pursuant to 326 IAC 6.8-1-2 (~~Nonattainment Area~~ Particulate **Matter** Limitations **for Lake County**), emissions of particulate matter less than ten (10) microns in diameter (~~PM10~~ **PM_{10}**) from the following units shall not exceed the following limitations:*

Summary of Process Weight Rate Limits	
Unit ID	~~PM10~~ **PM_{10}** Limit (gr/dscf)
Storage Piles	0.03
Truck Loading & Unloading	0.03
Transporting (Road Emissions)	0.03
Feed Belt (CP016)	0.03
Jaw Crusher (CP016)	0.03
Under Belt (CP016)	0.03

*D.~~2~~**4**.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]*

...

*D.~~2~~**4**.4 Particulate Control **[326 IAC 2-2]***

*In order to ensure compliance with Conditions D.~~2~~**4**.1 and D.~~2~~**4**.2, the Permittee shall apply an initial application of water or a mixture of water and wetting agent to control the PM, PM_{10} and $PM_{2.5}$ emissions from the crusher and the conveyors. The suppressant shall be applied in a manner and at a frequency sufficient to ensure compliance with Conditions D.~~2~~**4**.1 and D.~~2~~**4**.2. If weather conditions preclude the use of wet suppression, the Permittee shall perform chemical analysis on the metallurgical material to ensure it has a moisture content greater than 1.5 percent of the process stream by weight. The Permittee shall submit to IDEM OAQ the method for moisture content analysis for approval.*

*D.~~2~~**4**.5 Particulate Matter (PM) [326 IAC 6.8-10] **[326 IAC 2-2]***

...

*D.~~2~~**4**.6 Visible Emissions Notations*

...

*D.~~2~~**4**.7 Record Keeping Requirements*

*(a) To document compliance with Condition D.~~2~~**4**.1, the Permittee shall maintain records at the plant of the LaFarge Plant slag input monthly.*

*(b) To document compliance with Condition D.~~2~~**4**.4, the Permittee shall maintain records of the chemical analysis of the metallurgical material, as needed.*

*(c) To document compliance with Condition D.~~2~~**4**.6, the Permittee shall maintain records of visible emission notations of the crusher and the conveyor transfer points stack exhaust once per day. 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).*

...

*D.~~2~~**4**.8 Reporting Requirements*

(a) Pursuant to 326 IAC 6.8-10 (Lake County Fugitive Particulate Matter), a quarterly report shall be submitted, stating the following:

(1) The dates any required control measures were not implemented.

(2) A listing of those control measures.

(3) The reasons that the control measures were not implemented.

(4) Any corrective action taken.

*(b) A quarterly summary of the information to document compliance with Condition D.~~2~~**4**.1 shall be submitted 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.*

*(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee ~~does~~ **do** require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).*

SECTION E.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]

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

E.1.1 General Provisions Relating to New Source Performance Standards under 40 CFR Part 60 [326 IAC 20-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.4200, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 60, Subpart IIII in accordance with schedule in 40 CFR Part 60, Subpart IIII.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.1.2 Stationary Compression Ignition Internal Combustion Engines NSPS [40 CFR Part 60, Subpart IIII]

The Permittee which owns and operates stationary compression ignition internal combustion engines shall comply with the provisions of 40 CFR Part 60, Subpart IIII (included as Attachment B of this permit):

(1) 40 CFR 60.4200(a)(2)(i);
(2) 40 CFR 60.4204(a);
(3) 40 CFR 60.4206;
(4) 40 CFR 60.4207;
(5) 40 CFR 60.4208;
(6) 40 CFR 60.4209;
(7) 40 CFR 60.4211(a) and (b);
(8) 40 CFR 60.4212;
(9) 40 CFR 60.4214;
(10) 40 CFR 60.4218;
(11) 40 CFR 60.4219;
(12) Table 1 to Subpart IIII of Part 60;
(13) Table 7 to Subpart IIII of Part 60; and
(14) Table 8 to Subpart IIII of Part 60.

SECTION E.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW;

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW;

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW;

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW;

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW;

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW;

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW;

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW;

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW;

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW;

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW;

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW;

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW;

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW;

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW;

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW;

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW;

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW; and

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW. [40 CFR 60, Subpart IIII]

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

E.2.1 General Provisions Relating to National Emissions Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) The Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 8 of 40 CFR Part 63, Subpart ZZZZ in accordance with schedule in 40 CFR Part 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

E.2.2 Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ]

The Permittee which owns and operates stationary reciprocating internal combustion engines shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment C of this permit):

(1) 40 CFR 63.6580;
(2) 40 CFR 63.6585;
(3) 40 CFR 63.6590; and
(4) Table 8 to Subpart ZZZZ of Part 63.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

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:
Phone:
Date:

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

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

This form consists of 2 pages Page 1 of 2

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- 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

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: **Diesel** generator **(EU1/GS033)** ~~and jaw crusher internal combustion engines~~
Parameter: Diesel fuel consumption
Limit: less than ~~102,367~~ **138,879** gallons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter: _____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: The ~~input of steel mill slag to the~~ portable crushing, screening and conveying plant **(installed in 1992) consisting of: Feeder Box, one (1) Jaw Crusher (EU2), two (2) Cone Crushers (EU3 and EU4), four (4) Screens (EU5), two (2) Magnets, one (1) Electromagnetic Crane, and fourteen (14) conveyors (EU6)**
Parameter: slag throughput
Limit: less than 731,308 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356
Facility: ~~The input of slag to the LaFarge Plant~~ **One slag crushing plant, identified as LaFarge Crushing Plant**
Parameter: slag throughput
Limit: ~~shall not exceed~~ **less than** 850,000 tons per 12 consecutive month period with compliance demonstrated at the end of each month

Quarter:_____YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total
Month 1			
Month 2			
Month 3			

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Crusher (CP007)***
Parameter: ***slag throughput***
Limit: ***less than 110,300 tons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***eleven (11) conveyors (EU6) (installed in 2003)***
Parameter: ***slag throughput***
Limit: ***less than 5,848,000 tons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Three Diesel Generators (GS011, GS013, and GS015)***
Parameter: ***diesel fuel input, collectively***
Limit: ***less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Two Diesel Generators (GS020 and GS022)***
Parameter: ***diesel fuel input, collectively***
Limit: ***less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Two Diesel Generators (GS025 and GS026)***
Parameter: ***diesel fuel input, collectively***
Limit: ***less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Two Diesel Generators (GS031 and GS032)***
Parameter: ***diesel fuel input, collectively***
Limit: ***less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Diesel Generator (GS038)***
Parameter: ***diesel fuel input***
Limit: ***less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Diesel Generator (GS040)***
Parameter: ***diesel fuel input***
Limit: ***less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Diesel Generator (GS042)***
Parameter: ***diesel fuel input***
Limit: ***less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Diesel Generator (GS043)***
Parameter: ***diesel fuel input***
Limit: ***less than 169,891 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

Part 70 Quarterly Report

Source Name: ***Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.***
Source Address: ***3210 Watling Street, East Chicago, Indiana 46312***
Mailing Address: ***3411 Sheffield Avenue, Hammond, Indiana 46327***
Part 70 Permit No.: ***T089-6580-00356***
Facility: ***Diesel Generator (GS045)***
Parameter: ***diesel fuel input***
Limit: ***less than 131,528 gallons per 12 consecutive month period with compliance demonstrated at the end of each month***

Quarter:_____YEAR:

Month	***Column 1***	***Column 2***	***Column 1 + Column 2***
	This Month	***Previous 11 Months***	***12 Month Total***
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
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 DATA SECTION

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Beemsterboer Slag ~~Corp~~ **Corporation**, a contractor of ArcelorMittal USA, Inc.
Source Address: 3210 Watling Street, East Chicago, Indiana 46312
Mailing Address: ~~3210 Watling Street, East Chicago, Indiana 46312~~
3411 Sheffield Avenue, Hammond, Indiana 46327
Part 70 Permit No.: T089-6580-00356

Months: _____ to _____ Year: _____

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".
□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.
□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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:	
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.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 089-24137-00356 and Significant Permit Modification 089-24225-00356. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

Appendix A: Emission Calculations
Equipment List

Company Name: Beemsterboer Slag Corporation
Address City IN Zip: 3210 Watling Street, East Chicago, IN 46312
Significant Source Modification: 089-24137-00356
Significant Permit Modification: 089-24225-00356
Reviewer: John Haney
Date: 12/16/2008

Year	Equipment	ID	Capacity (tons/hr)	Capacity (kW)
1970	Shuttle	SH035	425	
1973	Feeder	CF017	350	
1973	Stacker	CS003	380	
1973	Screen	SP001	350	
1974	Screen	SP002	350	
1974	Generator	GS004		200
1975	Feeder	CF024	450	
1975	Screen	SP005	350	
1976	Stacker	CS035	350	
1977	Stacker	CS018	300	
1977	Stacker	CS006	400	
1977	Stacker	CS012	600	
1977	Screen	SP007	350	
1977	Shuttle	SH010	300	
1977	Shuttle	SH013	425	
1978	Feeder	CF013	350	
1978	Stacker	CS028	400	
1978	Shuttle	SH007	275	
1978	Shuttle	SH008	280	
1978	Shuttle	SH016	400	
1979	Stacker	CS033	375	
1980	Stacker	CS015	400	
1980	Stacker	CS026	200	
1980	Shuttle	SH001	600	
1980	Screen	SP003	300	
1980	Screen	SP008	350	
1980	Generator	GS011		155
1980	Generator	GS013		100
1980	Generator	GS015		105
1981	Feeder	CF008	450	
1981	Feeder	CF009	450	
1981	Stacker	CS011	600	
1981	Stacker	CS032	340	
1981	Generator	GS016		60
1981	Generator	GS017		135
1982	Screen	SP014	200	
1983	Feeder	BH004	350	
1983	Feeder	CF011	250	
1983	Shuttle	SH006	375	
1983	Shuttle	SH011	475	
1983	Generator	GS019		25
1984	Stacker	CS021	340	
1984	Generator	GS020		180
1984	Generator	GS022		125
1985	Feeder	CF012	250	
1985	Feeder	CF022	450	
1985	Stacker	CS030	340	
1985	Shuttle	SH012	425	
1985	Generator	GS021		40
1986	Generator	GS023		150
1987	Feeder	CF010	450	
1987	Stacker	CS023	340	
1987	Stacker	CS025	340	
1987	Generator	GS024		180
1988	Crusher	CP005	400	
1988	Stacker	CS005	550	
1988	Shuttle	SH005	400	
1988	Shuttle	SH052	500	
1988	Generator	GS025		175
1988	Generator	GS026		90
1989	Screen	SP009	275	

	Year	Equipment	ID	Capacity (tons/hr)	Capacity (kW)
	1990	Feeder	CF014	350	
	1990	Stacker	CS029	350	
	1991	Feeder	CF007	400	
*	1992	Crusher	EU2	495	
*	1992	Crusher	EU3	670	
*	1992	Crusher	EU4	260	
*	1992	Conveyors (14)	EU6	800	
*	1992	Screen (4)	EU5	800	
*	1992	Feeder Box	---	800	
*	1992	Magnet (2)	---	800	
*	1992	Crane	---	800	
**	1992	Generator	EU1/GS033		600
	1992	Crusher	CP007	400	
	1992	Generator	GS029		40
	1993	Feeder	CF026	500	
	1994	Generator	GS030		40
	1995	Feeder	CF031	450	
	1995	Feeder	CF032	500	
	1995	Stacker	CS036	250	
	1995	Stacker	CS038	550	
	1995	Stacker	CS040	375	
	1995	Mag	MG012	200	
	1995	Shuttle	SH040	425	
	1995	Shuttle	SH041	450	
	1995	Shuttle	SH042	450	
	1995	Shuttle	SH043	600	
	1995	Screen	SP004	300	
	1995	Screen	SP006	350	
	1995	Generator	GS031		105
	1995	Generator	GS032		125
	1996	Feeder	CF034	500	
	1996	Stacker	CS039	600	
	1996	Stacker	CS041	600	
	1996	Stacker	CS044	900	
	1996	Stacker	CS045	900	
	1996	Shuttle	SH049	800	
	1997	Feeder	CF036	500	
	1997	Crusher	CP014	400	
	1997	Pugmill	PG004	225	
	1997	Shuttle	SH050	450	
	1997	Shuttle	SH051	450	
	1997	Shuttle	SH054	500	
	1997	Screen	SP027	350	
	1997	Generator	GS035		40
	1998	Generator	GS038		600
	1999	Feeder	CF025	500	
	1999	Crusher	CP012	300	
	1999	Stacker	CS043	1000	
	1999	Screen	SP033	400	
	1999	Generator	GS040		600
	2000	Screen	SP034	350	
	2000	Generator	GS042		320
*	2002	Generator	EU1/GS043		1000
*	2003	Conveyors (11)	EU6	800	
	2005	Generator	GS045		250
	2006	Generator	GS046		200

* These emission units have been permitted under Part 70 Operating Permit No. T089-6580-00356, and have been listed for PSD applicability purposes.
** This emission unit has been incorrectly listed in the Part 70 Operating Permit No. T089-6580-00356 Technical Service Document as being removed in 2002 when it was still in service.

Appendix A: Emission Calculations

Company Name: Beemsterboer Slag Corporation
Address City IN Zip: 3210 Watling Street, East Chicago, IN 46312
Significant Source Modification: 089-24137-00356
Significant Permit Modification: 089-24225-00356
Reviewer: John Haney
Date: 12/16/2008

Uncontrolled Potential Emissions (tons/year)

Year	PM	PM10	PM2.5	SOX	NOX	VOC	CO
Prior to 1977	249.36	109.76	---	2.41	36.42	2.96	7.85
1977	161.45	75.22	---	0.00	0.00	0.00	0.00
1978	107.53	54.42	---	0.00	0.00	0.00	0.00
1979	107.20	58.28	---	0.00	0.00	0.00	0.00
1980	157.83	70.85	---	4.33	65.55	5.33	14.12
1981	130.05	67.61	---	2.35	35.51	2.89	7.65
1982	76.45	37.74	---	0.00	0.00	0.00	0.00
1983	96.06	48.97	---	0.30	4.55	0.37	0.98
1984	101.14	56.78	---	3.67	55.53	4.51	11.97
1985	96.55	49.29	---	0.48	7.28	0.59	1.57
1986	1.94	1.94	---	1.81	27.31	2.22	5.89
1987	115.50	61.62	---	2.17	32.77	2.66	7.06
1988	151.30	79.71	---	3.19	48.25	3.92	10.40
1989	105.11	51.89	---	0.00	0.00	0.00	0.00
1990	107.13	57.25	---	0.00	0.00	0.00	0.00
1991	114.35	62.16	---	0.00	0.00	0.00	0.00
1992	243.25	108.94	---	14.74	91.86	3.08	22.54
1993	142.94	77.70	---	0.00	0.00	0.00	0.00
1994	0.52	0.52	---	0.48	7.28	0.59	1.57
1995	215.19	93.11	---	2.77	41.88	3.40	9.02
1996	219.78	108.74	---	0.00	0.00	0.00	0.00
1997	179.57	79.24	---	0.48	7.28	0.59	1.57
1998	2.47	2.47	---	14.26	84.58	2.48	20.97
1999	168.35	112.92	---	14.26	84.58	2.48	20.97
2000	137.92	70.18	---	3.85	58.27	4.74	12.56
2002	4.11	4.11	---	23.76	140.97	4.14	34.95
2003	228.70	124.32	---	0.00	0.00	0.00	0.00
2005	3.23	3.23	3.23	3.01	45.52	3.70	9.81
2006	2.58	2.58	2.58	2.41	36.42	2.96	7.85

Appendix A: Emission Calculations

Company Name: Beemsterboer Slag Corporation
Address City IN Zip: 3210 Watling Street, East Chicago, IN 46312
Significant Source Modification: 089-24137-00356
Significant Permit Modification: 089-24225-00356
Reviewer: John Haney
Date: 12/16/2008

Controlled Limited Emissions (tons/year)

Year	PM	PM10	PM2.5	SOX	NOX	VOC	CO
1977	14.27	6.75	---	0.00	0.00	0.00	0.00
1978	9.56	4.96	---	0.00	0.00	0.00	0.00
1979	10.46	5.72	---	0.00	0.00	0.00	0.00
1980	16.45	8.74	---	2.64	39.90	3.24	8.60
1981	13.98	8.51	---	2.35	35.51	2.89	7.65
1982	8.66	4.26	---	0.00	0.00	0.00	0.00
1983	8.88	4.78	---	0.30	4.55	0.37	0.98
1984	12.31	8.02	---	2.64	39.90	3.24	8.60
1985	9.09	4.98	---	0.48	7.28	0.59	1.57
1986	1.94	1.94	---	1.81	27.31	2.22	5.89
1987	12.85	7.94	---	2.17	32.77	2.66	7.06
1988	17.76	10.58	---	2.64	39.90	3.24	8.60
1989	10.15	5.03	---	0.00	0.00	0.00	0.00
1990	10.22	5.53	---	0.00	0.00	0.00	0.00
1991	11.15	6.10	---	0.00	0.00	0.00	0.00
1992	24.90	11.77	---	5.98	39.90	1.55	9.66
1993	13.94	7.63	---	0.00	0.00	0.00	0.00
1994	0.52	0.52	---	0.48	7.28	0.59	1.57
1995	20.36	10.34	---	2.64	39.90	3.24	8.60
1996	18.96	9.67	---	0.00	0.00	0.00	0.00
1997	17.64	8.12	---	0.48	7.28	0.59	1.57
1998	1.16	1.16	---	6.72	39.90	1.17	9.89
1999	17.04	8.63	---	6.72	39.90	1.17	9.89
2000	15.75	9.24	---	2.64	39.90	3.24	8.60
2002	1.16	1.16	---	6.72	39.90	1.17	9.89
2003	23.43	14.90	---	0.00	0.00	0.00	0.00
2005	2.83	2.83	2.83	2.64	39.90	3.24	8.60
2006	2.58	2.58	2.58	2.38	36.26	2.96	7.81

Year:	Prior	to	1977											
Potential Emissions (PM)														
Conveyor Shuttle	SH035	425	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.58	tons/yr	1.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF017	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS003	380	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.99	tons/yr	1.14	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP001	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP002	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF024	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP005	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS035	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			13.13	tons/yr	3.00	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			56.50	tons/yr	12.90	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									249.36	tons/yr			
Potential Emissions (PM10)													
Conveyor Shuttle	SH035	425	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.05	tons/yr	0.47	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF017	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS003	380	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.83	tons/yr	0.42	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP001	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP002	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF024	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP005	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS035	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			6.21	tons/yr	1.42	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			15.06	tons/yr	3.44	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									109.76	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 350 ton/hr x 8760 hr/yr = 3066000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 36.48 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 36.48 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton = 0.0008 lb PM10/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 13.13 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 6.21 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

3066000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 36070.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 36070.6 deliveries/year = 18035.3 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile = 1.67 lb PM10/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 56.50 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 15.06 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS004 200 kW TOTAL 200 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 1.88

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	2.55	2.55	2.38	36.26	2.96	7.81

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 268.2
Potential Throughput (hp-hr/yr) 2349432
Potential Diesel Usage (gal/yr) 120044

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.58	2.58	2.41	36.42	2.95	7.85

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1977

Potential Emissions (PM)

Conveyor Stacker	CS018	300	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.94	tons/yr	0.90	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS006	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS012	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP007	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH010	300	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.94	tons/yr	0.90	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH013	425	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.58	tons/yr	1.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			31.26	tons/yr	7.14	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			16.82	tons/yr	3.84	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			48.43	tons/yr	11.06	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									161.45	tons/yr			

Potential Emissions (PM10)

Conveyor Stacker	CS018	300	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.45	tons/yr	0.33	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS006	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS012	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP007	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH010	300	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.45	tons/yr	0.33	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH013	425	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.05	tons/yr	0.47	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			31.26	tons/yr	7.14	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			7.95	tons/yr	1.82	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			12.91	tons/yr	2.95	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									75.22	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 300 ton/hr x 8760 hr/yr = 2628000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 31.26 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 31.26 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 16.82 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 7.95 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2628000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 30917.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 30917.6 deliveries/year = 15458.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 48.43 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 12.91 TPY PM10

Year: 1977

Limited Emissions (PM)

Conveyor Stacker	CS018	300	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.18	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS006	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS012	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP007	350	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.37	tons/yr	0.77	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH010	300	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.18	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH013	425	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.26	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.13	tons/yr	0.71	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.68	tons/yr	0.38	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.84	tons/yr	1.11	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									14.27	tons/yr			

Limited Emissions (PM10)

Conveyor Stacker	CS018	300	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.06	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS006	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS012	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP007	350	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.13	tons/yr	0.26	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH010	300	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.06	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH013	425	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.13	tons/yr	0.71	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.80	tons/yr	0.18	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.29	tons/yr	0.29	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									6.75	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 300 ton/hr x 8760 hr/yr = 2628000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.13 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.13 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 1.68 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.80 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2628000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 30917.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 30917.6 deliveries/year = 15458.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.84 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.29 TPY PM10

Year: 1978

Potential Emissions (PM)

Conveyor Feeder	CF013	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS028	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH007	275	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.61	tons/yr	0.83	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH008	280	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.68	tons/yr	0.84	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH016	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			28.66	tons/yr	6.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			12.07	tons/yr	2.76	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			44.40	tons/yr	10.14	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									107.53	tons/yr			

Potential Emissions (PM10)

Conveyor Feeder	CF013	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS028	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH007	275	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.32	tons/yr	0.30	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH008	280	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.35	tons/yr	0.31	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH016	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			28.66	tons/yr	6.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			5.71	tons/yr	1.30	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			11.83	tons/yr	2.70	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									54.42	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 275 ton/hr x 8760 hr/yr = 2409000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 28.66 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 28.66 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 12.07 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 5.71 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2409000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 28341.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 28341.2 deliveries/year = 14170.6 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 44.40 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 11.83 TPY PM10

Year: 1978

Limited Emissions (PM)

Conveyor Feeder	CF013	350	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS028	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH007	275	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.17	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH008	280	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.17	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH016	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.87	tons/yr	0.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.21	tons/yr	0.28	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.44	tons/yr	1.01	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									9.56	tons/yr			

Limited Emissions (PM10)

Conveyor Feeder	CF013	350	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS028	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH007	275	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.06	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH008	280	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.06	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH016	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.87	tons/yr	0.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.57	tons/yr	0.13	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.18	tons/yr	0.27	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									4.96	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 275 ton/hr x 8760 hr/yr = 2409000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.87 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.87 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 1.21 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.57 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2409000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 28341.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 28341.2 deliveries/year = 14170.6 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.44 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.18 TPY PM10

Year: 1979

Potential Emissions (PM)												
Conveyor Stacker	CS033	375	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.93	tons/yr	1.13	lb/hr
Storage						** see below **			39.08	tons/yr	8.92	lb/hr
Aggregate Handling						** see below **			2.66	tons/yr	0.61	lb/hr
Unpaved Roads						** see below **			60.54	tons/yr	13.82	lb/hr
Total PM emissions before controls:									107.20	tons/yr		
Potential Emissions (PM10)												
Conveyor Stacker	CS033	375	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.81	tons/yr	0.41	lb/hr
Storage						** see below **			39.08	tons/yr	8.92	lb/hr
Aggregate Handling						** see below **			1.26	tons/yr	0.29	lb/hr
Unpaved Roads						** see below **			16.13	tons/yr	3.68	lb/hr
Total PM10 emissions before controls:									58.28	tons/yr		

Potential Emissions (PM)	
Conveyor Stacker CS033 375 ton/hr x 0.0030 lb/ton / 2000 lb/ton x 8760 hr/yr =	4.93 tons/yr 1.13 lb/hr AP-42 Ch. 11.19.2 (8/04)
Storage ** see below **	39.08 tons/yr 8.92 lb/hr Air Pollution Engineering Manual
Aggregate Handling ** see below **	2.66 tons/yr 0.61 lb/hr AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads ** see below **	60.54 tons/yr 13.82 lb/hr AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:	107.20 tons/yr
Potential Emissions (PM10)	
Conveyor Stacker CS033 375 ton/hr x 0.0011 lb/ton / 2000 lb/ton x 8760 hr/yr =	1.81 tons/yr 0.41 lb/hr AP-42 Ch. 11.19.2 (8/04)
Storage ** see below **	39.08 tons/yr 8.92 lb/hr Air Pollution Engineering Manual
Aggregate Handling ** see below **	1.26 tons/yr 0.29 lb/hr AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads ** see below **	16.13 tons/yr 3.68 lb/hr AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:	58.28 tons/yr

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 375 ton/hr x 8760 hr/yr = 3285000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 39.08 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 39.08 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 2.66 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 1.26 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3285000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 38647.1 deliveries/year
0.25 miles/trip * 2 trips/delivery * 38647.1 deliveries/year = 19323.5 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 60.54 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 16.13 TPY PM10

Year: 1979

Limited Emissions (PM)

Conveyor Stacker	CS033	375	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.23	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.91	tons/yr	0.89	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.27	tons/yr	0.06	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			6.05	tons/yr	1.38	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									10.46	tons/yr			

Limited Emissions (PM10)

Conveyor Stacker	CS033	375	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.91	tons/yr	0.89	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.13	tons/yr	0.03	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.61	tons/yr	0.37	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									5.72	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 375 ton/hr x 8760 hr/yr = 3285000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.91 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.91 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.27 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.13 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3285000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 38647.1 deliveries/year
0.25 miles/trip * 2 trips/delivery * 38647.1 deliveries/year = 19323.5 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 6.05 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.61 TPY PM10

Year:	1980													
Potential Emissions (PM)														
Conveyor Stacker	CS015	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS026	200	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.63	tons/yr	0.60	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH001	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP003	300	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	32.85	tons/yr	7.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP008	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			13.10	tons/yr	2.99	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			32.29	tons/yr	7.37	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			4.65	tons/yr	1.06	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									157.83	tons/yr			
Potential Emissions (PM10)													
Conveyor Stacker	CS015	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS026	200	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.96	tons/yr	0.22	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH001	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP003	300	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.43	tons/yr	2.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP008	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			6.20	tons/yr	1.41	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			8.60	tons/yr	1.96	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			4.65	tons/yr	1.06	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									70.85	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 20.84 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 20.84 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 13.10 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 6.20 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 32.29 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 8.60 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS011 155 kW GS013 100 kW GS015 105 kW TOTAL 360 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 3.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	4.59	4.59	4.29	65.27	5.33	14.06

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	482.8
Potential Throughput (hp-hr/yr)	4228978
Potential Diesel Usage (gal/yr)	216079

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	4.65	4.65	4.33	65.55	5.32	14.12

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1980**									**Limited Generator Diesel Usage**				**131,528 GPY**
Limited Emissions (PM)														
Conveyor Stacker	CS015	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS026	200	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH001	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP003	300	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP008	350	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		3.37	tons/yr	0.77	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **				2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **				1.31	tons/yr	0.30	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **				3.23	tons/yr	0.74	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **				2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:										16.45	tons/yr			
Limited Emissions (PM10)														
Conveyor Stacker	CS015	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS026	200	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.04	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH001	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP003	300	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		0.97	tons/yr	0.22	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP008	350	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =		1.13	tons/yr	0.26	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **				2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **				0.62	tons/yr	0.14	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **				0.86	tons/yr	0.20	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **				2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:										8.74	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.08 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.08 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.31 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.62 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 3.23 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.86 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS011 155 kW GS013 100 kW GS015 105 kW TOTAL 360 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp)	293.9
Limited Throughput (hp-hr/yr)	2574194
Limited Diesel Usage (gal/yr)	131528

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.64	39.90	3.24	8.60

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1981														
Potential Emissions (PM)														
Conveyor Feeder	CF008	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF009	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS011	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS032	340	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.47	tons/yr	1.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			13.03	tons/yr	2.97	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			54.89	tons/yr	12.53	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.52	tons/yr	0.58	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									130.05	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF008	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF009	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS011	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS032	340	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			6.16	tons/yr	1.41	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			14.63	tons/yr	3.34	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.52	tons/yr	0.58	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									67.61	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 13.03 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 6.16 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 54.89 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 14.63 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS016 60 kW GS017 135 kW TOTAL 195 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 1.83

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	2.49	2.49	2.33	35.36	2.89	7.62

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 261.5
Potential Throughput (hp-hr/yr) 2290696
Potential Diesel Usage (gal/yr) 117043

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.52	2.52	2.35	35.51	2.88	7.65

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1981**													
Limited Emissions (PM)														
Conveyor Feeder	CF008	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF009	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS011	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS032	340	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.30	tons/yr	0.30	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			5.49	tons/yr	1.25	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.52	tons/yr	0.58	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									13.98	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	CF008	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF009	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS011	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS032	340	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.62	tons/yr	0.14	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.46	tons/yr	0.33	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.52	tons/yr	0.58	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									8.51	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.30 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.62 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 5.49 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.46 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS016 60 kW GS017 135 kW TOTAL 195 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.83

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.49	2.49	2.33	35.36	2.89	7.62

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	261.5
Potential Throughput (hp-hr/yr)	2290696
Potential Diesel Usage (gal/yr)	117043

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.52	2.52	2.35	35.51	2.88	7.65

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1982

Potential Emissions (PM)

Screen	SP014	200	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	21.90	tons/yr	5.00	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.42	tons/yr	0.32	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			32.29	tons/yr	7.37	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									76.45	tons/yr			

Potential Emissions (PM10)

Screen	SP014	200	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.62	tons/yr	1.74	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.67	tons/yr	0.15	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			8.60	tons/yr	1.96	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									37.74	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 20.84 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 20.84 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 1.42 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 0.67 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 32.29 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 8.60 TPY PM10

Year:	**1982**													
Limited Emissions (PM)														
Screen	SP014	200	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.42	tons/yr	0.32	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			3.23	tons/yr	0.74	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									8.66	tons/yr			
Limited Emissions (PM10)													
Screen	SP014	200	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.65	tons/yr	0.15	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.67	tons/yr	0.15	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			0.86	tons/yr	0.20	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									4.26	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.08 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.08 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 1.42 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.67 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 3.23 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.86 TPY PM10

Year:	1983													
Potential Emissions (PM)														
Conveyor Feeder	BH004	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF011	250	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.29	tons/yr	0.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH006	375	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.93	tons/yr	1.13	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH011	475	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.24	tons/yr	1.43	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			26.05	tons/yr	5.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			10.27	tons/yr	2.34	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			40.36	tons/yr	9.21	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.32	tons/yr	0.07	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									96.06	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	BH004	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF011	250	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.20	tons/yr	0.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH006	375	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.81	tons/yr	0.41	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH011	475	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.29	tons/yr	0.52	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			26.05	tons/yr	5.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			4.86	tons/yr	1.11	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			10.76	tons/yr	2.46	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.32	tons/yr	0.07	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									48.97	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 250 ton/hr x 8760 hr/yr = 2190000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 26.05 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 26.05 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 10.27 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 4.86 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2190000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 25764.7 deliveries/year
0.25 miles/trip * 2 trips/delivery * 25764.7 deliveries/year = 12882.4 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 40.36 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 10.76 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):
Generator: GS019 25 kW TOTAL 25 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.23

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.32	0.32	0.30	4.53	0.37	0.98

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 33.5
Potential Throughput (hp-hr/yr) 293679
Potential Diesel Usage (gal/yr) 15005

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.32	0.32	0.30	4.55	0.37	0.98

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1983**													
Limited Emissions (PM)														
Conveyor Feeder	BH004	350	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF011	250	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.15	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH006	375	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.23	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH011	475	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.29	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.61	tons/yr	0.59	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.03	tons/yr	0.23	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.04	tons/yr	0.92	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.32	tons/yr	0.07	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									8.88	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	BH004	350	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF011	250	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.05	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH006	375	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH011	475	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.61	tons/yr	0.59	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.49	tons/yr	0.11	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.08	tons/yr	0.25	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.32	tons/yr	0.07	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									4.78	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 250 ton/hr x 8760 hr/yr = 2190000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.61 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.61 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.03 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.49 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2190000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 25764.7 deliveries/year
0.25 miles/trip * 2 trips/delivery * 25764.7 deliveries/year = 12882.4 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.04 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.08 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS019 25 kW TOTAL 25 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.23

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	0.32	0.32	0.30	4.53	0.37	0.98

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 33.5
Potential Throughput (hp-hr/yr) 293679
Potential Diesel Usage (gal/yr) 15005

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	0.32	0.32	0.30	4.55	0.37	0.98

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1984

Potential Emissions (PM)

Conveyor Stacker	CS021	340	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.47	tons/yr	1.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			54.89	tons/yr	12.53	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			3.94	tons/yr	0.90	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									101.14	tons/yr			

Potential Emissions (PM10)

Conveyor Stacker	CS021	340	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.14	tons/yr	0.26	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			14.63	tons/yr	3.34	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			3.94	tons/yr	0.90	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									56.78	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 2.41 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 1.14 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 54.89 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 14.63 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS020 180 kW GS022 125 kW TOTAL 305 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 2.86

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	3.89	3.89	3.64	55.30	4.51	11.91

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 409.0
Potential Throughput (hp-hr/yr) 3582884
Potential Diesel Usage (gal/yr) 183067

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	3.94	3.94	3.67	55.53	4.50	11.97

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1984								**Limited Generator Diesel Usage**				**131,528 GPY**
Limited Emissions (PM)												
Conveyor Stacker	CS021	340	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **		3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **		0.24	tons/yr	0.05	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **		5.49	tons/yr	1.25	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **		2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:								12.31	tons/yr			
Limited Emissions (PM10)												
Conveyor Stacker	CS021	340	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **		3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **		0.11	tons/yr	0.03	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **		1.46	tons/yr	0.33	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **		2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:								8.02	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.24 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.11 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 5.49 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.46 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS020 180 kW GS022 125 kW TOTAL 305 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)
Limited Capacity (hp) 293.9
Limited Throughput (hp-hr/yr) 2574194
Limited Diesel Usage (gal/yr) 131528

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.64	39.90	3.24	8.60

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1985														
Potential Emissions (PM)														
Conveyor Feeder	CF012	250	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.29	tons/yr	0.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF022	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS030	340	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.47	tons/yr	1.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH012	425	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.58	tons/yr	1.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			26.05	tons/yr	5.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			10.37	tons/yr	2.37	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			40.36	tons/yr	9.21	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									96.55	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF012	250	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.20	tons/yr	0.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF022	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS030	340	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH012	425	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.05	tons/yr	0.47	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			26.05	tons/yr	5.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			4.91	tons/yr	1.12	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			10.76	tons/yr	2.46	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									49.29	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 250 ton/hr x 8760 hr/yr = 2190000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 26.05 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 26.05 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 10.37 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 4.91 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2190000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 25764.7 deliveries/year
0.25 miles/trip * 2 trips/delivery * 25764.7 deliveries/year = 12882.4 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 40.36 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 10.76 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):
Generator: GS021 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 53.6
Potential Throughput (hp-hr/yr) 469886
Potential Diesel Usage (gal/yr) 24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1985**													
Limited Emissions (PM)														
Conveyor Feeder	CF012	250	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.15	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF022	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS030	340	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH012	425	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.26	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.61	tons/yr	0.59	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.04	tons/yr	0.24	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.04	tons/yr	0.92	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									9.09	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	CF012	250	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.05	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF022	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS030	340	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH012	425	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.61	tons/yr	0.59	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.49	tons/yr	0.11	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.08	tons/yr	0.25	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									4.98	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 250 ton/hr x 8760 hr/yr = 2190000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.61 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.61 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.04 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.49 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2190000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 25764.7 deliveries/year
0.25 miles/trip * 2 trips/delivery * 25764.7 deliveries/year = 12882.4 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.04 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.08 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS021 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 53.6
Potential Throughput (hp-hr/yr) 469886
Potential Diesel Usage (gal/yr) 24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1986**					
Potential Emissions (PM)						
Generator(s)	** see below **	1.94	tons/yr	0.44	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:		1.94	tons/yr			
Potential Emissions (PM10)						
Generator(s)	** see below **	1.94	tons/yr	0.44	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:		1.94	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS023 150 kW TOTAL 150 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.41

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	1.91	1.91	1.79	27.20	2.22	5.86

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	201.2
Potential Throughput (hp-hr/yr)	1762074
Potential Diesel Usage (gal/yr)	90033

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	1.94	1.94	1.81	27.31	2.22	5.89

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1986**					
Limited Emissions (PM)						
Generator(s)	** see below **	1.94	tons/yr	0.44	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:		1.94	tons/yr			
Limited Emissions (PM10)						
Generator(s)	** see below **	1.94	tons/yr	0.44	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:		1.94	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS023 150 kW TOTAL 150 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.41

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	1.91	1.91	1.79	27.20	2.22	5.86

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	201.2
Potential Throughput (hp-hr/yr)	1762074
Potential Diesel Usage (gal/yr)	90033

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	1.94	1.94	1.81	27.31	2.22	5.89

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1987

Potential Emissions (PM)

Conveyor Feeder	CF010	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS023	340	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.47	tons/yr	1.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS025	340	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.47	tons/yr	1.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			8.00	tons/yr	1.83	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			54.89	tons/yr	12.53	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.33	tons/yr	0.53	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									115.50	tons/yr			

Potential Emissions (PM10)

Conveyor Feeder	CF010	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS023	340	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS025	340	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			35.43	tons/yr	8.09	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			3.78	tons/yr	0.86	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			14.63	tons/yr	3.34	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.33	tons/yr	0.53	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									61.62	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 35.43 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 8.00 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 3.78 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 54.89 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 14.63 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS024 180 kW TOTAL 180 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.69

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	2.29	2.29	2.15	32.64	2.66	7.03

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	241.4
Potential Throughput (hp-hr/yr)	2114489
Potential Diesel Usage (gal/yr)	108040

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.33	2.33	2.17	32.77	2.66	7.06

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1987													
Limited Emissions (PM)													
Conveyor Feeder	CF010	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS023	340	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS025	340	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.80	tons/yr	0.18	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			5.49	tons/yr	1.25	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.33	tons/yr	0.53	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									12.85	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	CF010	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS023	340	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS025	340	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.54	tons/yr	0.81	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.38	tons/yr	0.09	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.46	tons/yr	0.33	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.33	tons/yr	0.53	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									7.94	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 340 ton/hr x 8760 hr/yr = 2978400 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.54 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.80 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.38 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2978400 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 35040.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 35040.0 deliveries/year = 17520.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 5.49 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.46 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS024 180 kW TOTAL 180 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.69

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.29	2.29	2.15	32.64	2.66	7.03

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	241.4
Potential Throughput (hp-hr/yr)	2114489
Potential Diesel Usage (gal/yr)	108040

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.33	2.33	2.17	32.77	2.66	7.06

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1988													
Potential Emissions (PM)														
Crusher	CP005	400	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	9.46	tons/yr	2.16	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS005	550	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.23	tons/yr	1.65	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH005	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH052	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			41.69	tons/yr	9.52	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			13.10	tons/yr	2.99	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			64.58	tons/yr	14.74	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			3.42	tons/yr	0.78	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									151.30	tons/yr			
Potential Emissions (PM10)													
Crusher	CP005	400	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.20	tons/yr	0.96	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS005	550	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.65	tons/yr	0.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH005	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH052	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			41.69	tons/yr	9.52	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			6.20	tons/yr	1.41	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			17.21	tons/yr	3.93	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			3.42	tons/yr	0.78	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									79.71	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 400 ton/hr x 8760 hr/yr = 3504000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 41.69 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 41.69 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 13.10 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 6.20 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

3504000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 41223.5 deliveries/year
0.25 miles/trip * 2 trips/delivery * 41223.5 deliveries/year = 20611.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 64.58 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 17.21 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS025 175 kW GS026 90 kW TOTAL 265 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 2.49

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	3.38	3.38	3.16	48.05	3.92	10.35

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	355.4
Potential Throughput (hp-hr/yr)	3112997
Potential Diesel Usage (gal/yr)	159058

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	3.42	3.42	3.19	48.25	3.91	10.40

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1988**									**Limited Generator Diesel Usage**		**131,528 GPY**		
Limited Emissions (PM)														
Crusher	CP005	400	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.10	tons/yr	0.48	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS005	550	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.34	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH005	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH052	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			4.17	tons/yr	0.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.31	tons/yr	0.30	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			6.46	tons/yr	1.47	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									17.76	tons/yr			
Limited Emissions (PM10)													
Crusher	CP005	400	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.95	tons/yr	0.22	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS005	550	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.11	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH005	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH052	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			4.17	tons/yr	0.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.62	tons/yr	0.14	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.72	tons/yr	0.39	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									10.58	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 400 ton/hr x 8760 hr/yr = 3504000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 4.17 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 4.17 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.31 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.62 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

3504000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 41223.5 deliveries/year
0.25 miles/trip * 2 trips/delivery * 41223.5 deliveries/year = 20611.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 6.46 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.72 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS025 175 kW GS026 90 kW TOTAL 265 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp)	293.9
Limited Throughput (hp-hr/yr)	2574194
Limited Diesel Usage (gal/yr)	131528

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.64	39.90	3.24	8.60

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1989**													
Potential Emissions (PM)														
Screen	SP009	275	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	30.11	tons/yr	6.88	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			28.66	tons/yr	6.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.95	tons/yr	0.44	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			44.40	tons/yr	10.14	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									105.11	tons/yr			
Potential Emissions (PM10)													
Screen	SP009	275	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	10.48	tons/yr	2.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			28.66	tons/yr	6.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.92	tons/yr	0.21	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			11.83	tons/yr	2.70	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									51.89	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 275 ton/hr x 8760 hr/yr = 2409000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 28.66 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 28.66 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 1.95 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 0.92 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2409000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 28341.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 28341.2 deliveries/year = 14170.6 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 44.40 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 11.83 TPY PM10

Year:	**1989**													
Limited Emissions (PM)														
Screen	SP009	275	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.65	tons/yr	0.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.87	tons/yr	0.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.19	tons/yr	0.04	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.44	tons/yr	1.01	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									10.15	tons/yr			
Limited Emissions (PM10)													
Screen	SP009	275	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.89	tons/yr	0.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.87	tons/yr	0.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.18	tons/yr	0.27	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									5.03	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 275 ton/hr x 8760 hr/yr = 2409000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.87 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 2.87 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.19 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.09 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

2409000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 28341.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 28341.2 deliveries/year = 14170.6 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.44 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.18 TPY PM10

Year: 1990

Potential Emissions (PM)

Conveyor Feeder	CF014	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS029	350	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.60	tons/yr	1.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			4.96	tons/yr	1.13	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			56.50	tons/yr	12.90	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									107.13	tons/yr			

Potential Emissions (PM10)

Conveyor Feeder	CF014	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS029	350	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.69	tons/yr	0.39	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.34	tons/yr	0.54	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			15.06	tons/yr	3.44	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									57.25	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 350 ton/hr x 8760 hr/yr = 3066000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 36.48 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 36.48 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 4.96 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 2.34 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3066000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 36070.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 36070.6 deliveries/year = 18035.3 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 56.50 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 15.06 TPY PM10

Year: 1990

Limited Emissions (PM)

Conveyor Feeder	CF014	350	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS029	350	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.21	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.65	tons/yr	0.83	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.50	tons/yr	0.11	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			5.65	tons/yr	1.29	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									10.22	tons/yr			

Limited Emissions (PM10)

Conveyor Feeder	CF014	350	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS029	350	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.07	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.65	tons/yr	0.83	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.23	tons/yr	0.05	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.51	tons/yr	0.34	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									5.53	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 350 ton/hr x 8760 hr/yr = 3066000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.65 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 3.65 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.50 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.23 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3066000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 36070.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 36070.6 deliveries/year = 18035.3 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 5.65 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.51 TPY PM10

Year: 1991

Potential Emissions (PM)													
Conveyor Feeder	CF007	400	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.26	tons/yr	1.20	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			41.69	tons/yr	9.52	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			64.58	tons/yr	14.74	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									114.35	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF007	400	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.93	tons/yr	0.44	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			41.69	tons/yr	9.52	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.34	tons/yr	0.31	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			17.21	tons/yr	3.93	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									62.16	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 400 ton/hr x 8760 hr/yr = 3504000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 41.69 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 41.69 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 2.83 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 1.34 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3504000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 41223.5 deliveries/year
0.25 miles/trip * 2 trips/delivery * 41223.5 deliveries/year = 20611.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 64.58 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 17.21 TPY PM10

Year: 1991

Limited Emissions (PM)

Conveyor Feeder	CF007	400	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			4.17	tons/yr	0.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			6.46	tons/yr	1.47	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									11.15	tons/yr			

Limited Emissions (PM10)

Conveyor Feeder	CF007	400	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			4.17	tons/yr	0.95	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.13	tons/yr	0.03	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.72	tons/yr	0.39	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									6.10	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 400 ton/hr x 8760 hr/yr = 3504000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 4.17 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 4.17 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.28 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.13 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

3504000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 41223.5 deliveries/year
0.25 miles/trip * 2 trips/delivery * 41223.5 deliveries/year = 20611.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 6.46 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.72 TPY PM10

Year: 1992

Potential Emissions (PM)

Crusher	CP007	400	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	9.46	tons/yr	2.16	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU2	495	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.71	tons/yr	2.67	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU3	670	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	15.85	tons/yr	3.62	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU4	260	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.15	tons/yr	1.40	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyors (14)	EU6	800	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	10.51	tons/yr	2.40	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen (4)	EU5	800	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	87.60	tons/yr	20.00	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Feeder Box	---	800	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Magnets (2)	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Crane	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Storage						** see below **			27.10	tons/yr	6.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			29.92	tons/yr	6.83	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			41.97	tons/yr	9.58	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.98	tons/yr	0.68	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)
Total PM emissions before controls:									243.25	tons/yr			

Potential Emissions (PM10)

Crusher	CP007	400	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.20	tons/yr	0.96	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU2	495	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.20	tons/yr	1.19	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU3	670	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.04	tons/yr	1.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	EU4	260	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.73	tons/yr	0.62	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyors (14)	EU6	800	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.85	tons/yr	0.88	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen (4)	EU5	800	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	30.48	tons/yr	6.96	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Feeder Box	---	800	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Magnets (2)	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Crane	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Storage						** see below **			27.10	tons/yr	6.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			14.15	tons/yr	3.23	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			11.19	tons/yr	2.55	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.98	tons/yr	0.68	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)
Total PM10 emissions before controls:									108.94	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 260 ton/hr x 8760 hr/yr = 2277600 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 27.10 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 27.10 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 29.92 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 14.15 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2277600 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 26795.3 deliveries/year
0.25 miles/trip * 2 trips/delivery * 26795.3 deliveries/year = 13397.6 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 41.97 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 11.19 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):
Generator: GS029 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 53.6
Potential Throughput (hp-hr/yr) 469886
Potential Diesel Usage (gal/yr) 24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):
Generator: EU1 / GS033 600 kW TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 5.63

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Potential Emission in tons/yr	2.47	2.47	12.46	78.94	2.22	20.97

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 804.6
Potential Throughput (hp-hr/yr) 7048296
Potential Diesel Usage (gal/yr) 360132

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	#######	0.0240	#######	0.0055
Potential Emission in tons/yr	2.47	2.47	14.26	84.58	2.48	19.38
Total Potential Emission	**2.98**	**2.98**	**14.74**	**91.86**	**3.08**	**22.54**

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1992	Limited Pile Capacity				731,308	TPY	Limited Generator Diesel Usage				138,879	GPY
Limited Emissions (PM)													
Crusher	EU2	495	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	2.60	tons/yr	0.59	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Crusher	EU3	670	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	3.52	tons/yr	0.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Crusher	EU4	260	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	1.37	tons/yr	0.31	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Conveyors (14)	EU6	800	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.49	tons/yr	0.11	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Screen (4)	EU5	800	ton/hr x	0.00220	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	7.71	tons/yr	1.76	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Feeder Box	---	800	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Magnets (2)	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Crane	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Storage						** see below **		1.45	tons/yr	0.33	lb/hr	Air Pollution Engineering Manual	
Aggregate Handling						** see below **		2.14	tons/yr	0.49	lb/hr	AP-42 Ch. 13.2.4 (11/06)	
Unpaved Roads						** see below **		1.35	tons/yr	0.31	lb/hr	AP-42 Ch. 13.2.2 (11/06)	
Generator(s)						** see below **		0.95	tons/yr	0.22	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)	
Total PM emissions after controls:								21.58	tons/yr				
Limited Emissions (PM10)													
Crusher	EU2	495	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	1.17	tons/yr	0.27	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Crusher	EU3	670	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	1.58	tons/yr	0.36	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Crusher	EU4	260	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.61	tons/yr	0.14	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Conveyors (14)	EU6	800	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.16	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Screen (4)	EU5	800	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	2.59	tons/yr	0.59	lb/hr	AP-42 Ch. 11.19.2 (8/04)	
Feeder Box	---	800	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Magnets (2)	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Crane	---	500	ton/hr x	0.0000	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr		
Storage						** see below **		1.45	tons/yr	0.33	lb/hr	Air Pollution Engineering Manual	
Aggregate Handling						** see below **		1.01	tons/yr	0.23	lb/hr	AP-42 Ch. 13.2.4 (11/06)	
Unpaved Roads						** see below **		0.36	tons/yr	0.08	lb/hr	AP-42 Ch. 13.2.2 (11/06)	
Generator(s)						** see below **		0.95	tons/yr	0.22	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)	
Total PM10 emissions after controls:								9.90	tons/yr				

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 731308 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 2.96 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 25 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 1.45 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 1.45 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 2.14 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.01 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

731308 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 8603.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 8603.6 deliveries/year = 4301.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 1.35 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.36 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: EU1 / GS033 600 kW TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.17

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Limited Emission in tons/yr	0.95	0.95	4.80	30.44	0.86	8.09

B. Emissions calculated based on output rating (hp)
Limited Capacity (hp) 310.3
Limited Throughput (hp-hr/yr) 2718063
Limited Diesel Usage (gal/yr) 138879

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Limited Emission in tons/yr	0.95	0.95	5.50	32.62	0.96	7.47

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1992**		**Limited Pile Capacity**			**110,300**	**TPY**					
Limited Emissions (PM)												
Crusher	CP007	400	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.10	tons/yr	0.48	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			0.22	tons/yr	0.05	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			0.20	tons/yr	0.05	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)
Total PM emissions after controls:									3.32	tons/yr			
Limited Emissions (PM10)													
Crusher	CP007	400	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.95	tons/yr	0.22	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			0.22	tons/yr	0.05	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.13	tons/yr	0.03	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			0.05	tons/yr	0.01	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4, 3.4.4 (10/96)
Total PM10 emissions after controls:									1.87	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 110300 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 2.96 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 25 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 0.22 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 0.22 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.28 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.13 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

110300 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 1297.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 1297.6 deliveries/year = 648.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 0.20 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.05 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS029 | 40 kW | TOTAL | 40 kW |

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 53.6
Potential Throughput (hp-hr/yr) 469886
Potential Diesel Usage (gal/yr) 24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1993

Potential Emissions (PM)

Conveyor Feeder	CF026	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			52.11	tons/yr	11.90	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			3.54	tons/yr	0.81	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			80.72	tons/yr	18.43	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									142.94	tons/yr			

Potential Emissions (PM10)

Conveyor Feeder	CF026	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			52.11	tons/yr	11.90	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.67	tons/yr	0.38	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			21.51	tons/yr	4.91	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									77.70	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 500 ton/hr x 8760 hr/yr = 4380000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 52.11 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 52.11 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 3.54 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 1.67 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

4380000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 51529.4 deliveries/year
0.25 miles/trip * 2 trips/delivery * 51529.4 deliveries/year = 25764.7 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 80.72 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 21.51 TPY PM10

Year: 1993

Limited Emissions (PM)

Conveyor Feeder	CF026	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			5.21	tons/yr	1.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.35	tons/yr	0.08	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			8.07	tons/yr	1.84	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									13.94	tons/yr			

Limited Emissions (PM10)

Conveyor Feeder	CF026	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			5.21	tons/yr	1.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.17	tons/yr	0.04	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			2.15	tons/yr	0.49	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									7.63	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 500 ton/hr x 8760 hr/yr = 4380000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 5.21 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 5.21 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.35 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 0.17 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

4380000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 51529.4 deliveries/year
0.25 miles/trip * 2 trips/delivery * 51529.4 deliveries/year = 25764.7 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 8.07 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 2.15 TPY PM10

Year:	**1994**					
Potential Emissions (PM)						
Generator(s)		** see below **	0.52	tons/yr	0.12 lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:			0.52	tons/yr		
Potential Emissions (PM10)						
Generator(s)		** see below **	0.52	tons/yr	0.12 lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:			0.52	tons/yr		

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS030 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	53.6
Potential Throughput (hp-hr/yr)	469886
Potential Diesel Usage (gal/yr)	24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1994**				
Limited Emissions (PM)					
Generator(s)	** see below **	0.52	tons/yr	0.12 lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:		0.52	tons/yr		
Limited Emissions (PM10)					
Generator(s)	** see below **	0.52	tons/yr	0.12 lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:		0.52	tons/yr		

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS030 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	53.6
Potential Throughput (hp-hr/yr)	469886
Potential Diesel Usage (gal/yr)	24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1995													
Potential Emissions (PM)														
Conveyor Feeder	CF031	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF032	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS036	250	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.29	tons/yr	0.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS038	550	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.23	tons/yr	1.65	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS040	375	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.93	tons/yr	1.13	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Swing Mag	MG012	200	ton/hr x	0.00	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Conveyor Shuttle	SH040	425	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.58	tons/yr	1.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH041	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH042	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH043	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP004	300	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	32.85	tons/yr	7.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP006	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			34.70	tons/yr	7.92	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			32.29	tons/yr	7.37	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.97	tons/yr	0.68	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									215.19	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF031	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Feeder	CF032	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS036	250	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.20	tons/yr	0.28	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS038	550	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.65	tons/yr	0.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS040	375	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.81	tons/yr	0.41	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Swing Mag	MG012	200	ton/hr x	0.00	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.00	tons/yr	0.00	lb/hr	
Conveyor Shuttle	SH040	425	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.05	tons/yr	0.47	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH041	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH042	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH043	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP004	300	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.43	tons/yr	2.61	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP006	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			20.84	tons/yr	4.76	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			16.41	tons/yr	3.75	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			8.60	tons/yr	1.96	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.97	tons/yr	0.68	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									93.11	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 20.84 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 20.84 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 34.70 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 16.41 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 32.29 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 8.60 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS031 105 kW GS032 125 kW TOTAL 230 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 2.16

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	2.93	2.93	2.74	41.70	3.40	8.98

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 308.4
Potential Throughput (hp-hr/yr) 2701847
Potential Diesel Usage (gal/yr) 138051

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.97	2.97	2.77	41.88	3.40	9.02

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1995									Limited Generator Diesel Usage		131,528 GPY		
Limited Emissions (PM)														
Conveyor Feeder	CF031	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Feeder	CF032	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS036	250	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.15	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS038	550	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.34	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS040	375	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.23	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Swing Mag	MG012	200	ton/hr x	0.00	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr			
Conveyor Shuttle	SH040	425	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.26	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH041	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH042	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH043	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Screen	SP004	300	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Screen	SP006	350	ton/hr x	0.0022	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	3.37	tons/yr	0.77	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Storage						** see below **		2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual		
Aggregate Handling						** see below **		3.47	tons/yr	0.79	lb/hr	AP-42 Ch. 13.2.4 (11/06)		
Unpaved Roads						** see below **		3.23	tons/yr	0.74	lb/hr	AP-42 Ch. 13.2.2 (11/06)		
Generator(s)						** see below **		2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)		
Total PM emissions after controls:								20.36	tons/yr					
Limited Emissions (PM10)														
Conveyor Feeder	CF031	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Feeder	CF032	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS036	250	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.05	tons/yr	0.01	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS038	550	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.11	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Stacker	CS040	375	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.08	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Swing Mag	MG012	200	ton/hr x	0.00	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.00	tons/yr	0.00	lb/hr			
Conveyor Shuttle	SH040	425	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH041	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH042	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Conveyor Shuttle	SH043	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Screen	SP004	300	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	0.97	tons/yr	0.22	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Screen	SP006	350	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760 hr/yr =	1.13	tons/yr	0.26	lb/hr	AP-42 Ch. 11.19.2 (8/04)		
Storage						** see below **		2.08	tons/yr	0.48	lb/hr	Air Pollution Engineering Manual		
Aggregate Handling						** see below **		1.64	tons/yr	0.37	lb/hr	AP-42 Ch. 13.2.4 (11/06)		
Unpaved Roads						** see below **		0.86	tons/yr	0.20	lb/hr	AP-42 Ch. 13.2.2 (11/06)		
Generator(s)						** see below **		2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)		
Total PM10 emissions after controls:								10.34	tons/yr					

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 200 ton/hr x 8760 hr/yr = 1752000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.08 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.08 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 3.47 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.64 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

1752000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 20611.8 deliveries/year
0.25 miles/trip * 2 trips/delivery * 20611.8 deliveries/year = 10305.9 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 3.23 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.86 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS031 105 kW GS032 125 kW TOTAL 230 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)
Limited Capacity (hp) 293.9
Limited Throughput (hp-hr/yr) 2574194
Limited Diesel Usage (gal/yr) 131528

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.64	39.90	3.24	8.60

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1996**													
Potential Emissions (PM)														
Conveyor Feeder	CF034	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS039	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS041	600	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.88	tons/yr	1.80	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS044	900	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.83	tons/yr	2.70	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS045	900	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	11.83	tons/yr	2.70	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH049	800	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	10.51	tons/yr	2.40	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			52.11	tons/yr	11.90	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			30.45	tons/yr	6.95	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			80.72	tons/yr	18.43	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									219.78	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF034	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS039	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS041	600	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.89	tons/yr	0.66	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS044	900	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.34	tons/yr	0.99	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS045	900	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.34	tons/yr	0.99	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH049	800	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.85	tons/yr	0.88	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			52.11	tons/yr	11.90	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			14.40	tons/yr	3.29	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			21.51	tons/yr	4.91	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									108.74	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 500 ton/hr x 8760 hr/yr = 4380000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 52.11 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year = 52.11 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton = 30.45 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton = 14.40 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

4380000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 51529.4 deliveries/year
0.25 miles/trip * 2 trips/delivery * 51529.4 deliveries/year = 25764.7 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 80.72 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 21.51 TPY PM10

Year: 1996

Limited Emissions (PM)

Conveyor Feeder	CF034	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS039	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS041	600	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.37	tons/yr	0.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS044	900	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.55	tons/yr	0.13	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS045	900	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.55	tons/yr	0.13	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH049	800	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.49	tons/yr	0.11	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			5.21	tons/yr	1.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			3.04	tons/yr	0.70	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			8.07	tons/yr	1.84	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									18.96	tons/yr			

Limited Emissions (PM10)

Conveyor Feeder	CF034	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS039	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS041	600	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS044	900	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.18	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS045	900	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.18	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH049	800	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.16	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			5.21	tons/yr	1.19	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.44	tons/yr	0.33	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			2.15	tons/yr	0.49	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									9.67	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992)

Pile capacity (PC) = 500 ton/hr x 8760 hr/yr = 4380000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 5.21 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90% = 5.21 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1)

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 3.04 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90% = 1.44 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2

4380000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 51529.4 deliveries/year
0.25 miles/trip * 2 trips/delivery * 51529.4 deliveries/year = 25764.7 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 8.07 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 2.15 TPY PM10

Year: 1997

Potential Emissions (PM)

Conveyor Feeder	CF036	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP014	450	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	10.64	tons/yr	2.43	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Pugmill	PG004	225	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	24.64	tons/yr	5.63	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH050	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH051	450	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	5.91	tons/yr	1.35	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH054	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP027	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			23.45	tons/yr	5.35	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			20.71	tons/yr	4.73	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			36.32	tons/yr	8.29	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									179.57	tons/yr			

Potential Emissions (PM10)

Conveyor Feeder	CF036	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP014	450	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	4.73	tons/yr	1.08	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Pugmill	PG004	225	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	8.57	tons/yr	1.96	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH050	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH051	450	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH054	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP027	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			23.45	tons/yr	5.35	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			9.80	tons/yr	2.24	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			9.68	tons/yr	2.21	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									79.24	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 225 ton/hr x 8760 hr/yr = 1971000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 23.45 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 23.45 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 20.71 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 9.80 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

1971000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 23188.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 23188.2 deliveries/year = 11594.1 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 36.32 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 9.68 TPY PM10

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS035 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	53.6
Potential Throughput (hp-hr/yr)	469886
Potential Diesel Usage (gal/yr)	24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1997													
Limited Emissions (PM)														
Conveyor Feeder	CF036	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP014	450	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.37	tons/yr	0.54	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Pugmill	PG004	225	ton/hr x	0.00220	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.17	tons/yr	0.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH050	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH051	450	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.28	tons/yr	0.06	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH054	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP027	350	ton/hr x	0.00220	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.37	tons/yr	0.77	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.34	tons/yr	0.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.07	tons/yr	0.47	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			3.63	tons/yr	0.83	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									17.64	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	CF036	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP014	450	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.06	tons/yr	0.24	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Pugmill	PG004	225	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.73	tons/yr	0.17	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH050	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH051	450	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.09	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	SH054	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP027	350	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.13	tons/yr	0.26	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			2.34	tons/yr	0.54	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.98	tons/yr	0.22	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			0.97	tons/yr	0.22	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			0.52	tons/yr	0.12	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									8.12	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 225 ton/hr x 8760 hr/yr = 1971000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.34 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 2.34 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 2.07 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.98 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

1971000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 23188.2 deliveries/year
0.25 miles/trip * 2 trips/delivery * 23188.2 deliveries/year = 11594.1 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 3.63 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 0.97 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS035 40 kW TOTAL 40 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 0.38

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	0.51	0.51	0.48	7.25	0.59	1.56

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	53.6
Potential Throughput (hp-hr/yr)	469886
Potential Diesel Usage (gal/yr)	24009

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	0.52	0.52	0.48	7.28	0.59	1.57

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1998**					
Potential Emissions (PM)						
Generator(s)		** see below **	2.47	tons/yr	0.56 lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM emissions before controls:			2.47	tons/yr		
Potential Emissions (PM10)						
Generator(s)		** see below **	2.47	tons/yr	0.56 lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM10 emissions before controls:			2.47	tons/yr		

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: GS038 600 kW TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 5.63

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Potential Emission in tons/yr	2.47	2.47	12.46	78.94	2.22	20.97

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp) 804.6
Potential Throughput (hp-hr/yr) 7048296
Potential Diesel Usage (gal/yr) 360132

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Potential Emission in tons/yr	2.47	2.47	14.26	84.58	2.48	19.38

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**1998**		**Limited Generator Diesel Usage**		**169,891 GPY**	
Limited Emissions (PM)						
Generator(s)		** see below **	1.16 tons/yr	0.27 lb/hr	AP-42 Ch. 3.4.4 (10/96)	
Total PM emissions after controls:			1.16 tons/yr			
Limited Emissions (PM10)						
Generator(s)		** see below **	1.16 tons/yr	0.27 lb/hr	AP-42 Ch. 3.4.4 (10/96)	
Total PM10 emissions after controls:			1.16 tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: GS038 600 kW TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Limited Capacity (MMBtu/hr) 2.66

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Limited Emissions in tons/yr	1.16	1.16	5.88	37.24	1.05	9.89

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp) 379.6
Limited Throughput (hp-hr/yr) 3325000
Limited Diesel Usage (gal/yr) 169891

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Limited Emissions in tons/yr	1.16	1.16	6.72	39.90	1.17	9.14

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	1999												
Potential Emissions (PM)													
Conveyor Feeder	CF025	500	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	6.57	tons/yr	1.50	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP012	300	ton/hr x	0.0054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	7.10	tons/yr	1.62	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS043	1,000	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.14	tons/yr	3.00	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP033	400	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	43.80	tons/yr	10.00	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			31.26	tons/yr	7.14	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			15.58	tons/yr	3.56	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			48.43	tons/yr	11.06	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.47	tons/yr	0.56	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM emissions before controls:									168.35	tons/yr			
Potential Emissions (PM10)													
Conveyor Feeder	CF025	500	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	2.41	tons/yr	0.55	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP012	300	ton/hr x	0.0024	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.15	tons/yr	0.72	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Shuttle	CS043	1,000	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.11	tons/yr	8.70	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP033	400	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	15.24	tons/yr	3.48	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			31.26	tons/yr	7.14	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			7.37	tons/yr	1.68	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			12.91	tons/yr	2.95	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.47	tons/yr	0.56	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM10 emissions before controls:									112.92	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 300 ton/hr x 8760 hr/yr = 2628000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 31.26 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 31.26 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 15.58 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 7.37 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

2628000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 30917.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 30917.6 deliveries/year = 15458.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 48.43 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 12.91 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):
Generator: GS040 600 kW
TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 5.63

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Potential Emission in tons/yr	2.47	2.47	12.46	78.94	2.22	20.97

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 804.6
Potential Throughput (hp-hr/yr) 7048296
Potential Diesel Usage (gal/yr) 360132

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Potential Emission in tons/yr	2.47	2.47	14.26	84.58	2.48	19.38

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 1999														Limited Generator Diesel Usage			169,891 GPY
Limited Emissions (PM)																	
Conveyor Feeder	CF025	500	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.31	tons/yr	0.07	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP012	300	ton/hr x	0.00120	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.58	tons/yr	0.36	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS043	1,000	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.61	tons/yr	0.14	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP033	400	ton/hr x	0.00220	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.85	tons/yr	0.88	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.13	tons/yr	0.71	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.56	tons/yr	0.36	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			4.84	tons/yr	1.11	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			1.16	tons/yr	0.27	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM emissions after controls:									17.04	tons/yr			
Limited Emissions (PM10)													
Conveyor Feeder	CF025	500	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.10	tons/yr	0.02	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Crusher	CP012	300	ton/hr x	0.00054	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.71	tons/yr	0.16	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Conveyor Stacker	CS043	1,000	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.20	tons/yr	0.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Screen	SP033	400	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.30	tons/yr	0.30	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.13	tons/yr	0.71	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.74	tons/yr	0.17	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.29	tons/yr	0.29	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			1.16	tons/yr	0.27	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM10 emissions after controls:									8.63	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 300 ton/hr x 8760 hr/yr = 2628000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.13 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.13 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 1.56 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.74 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

2628000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 30917.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 30917.6 deliveries/year = 15458.8 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 4.84 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.29 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: GS040 600 kW TOTAL 600 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.66

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Limited Emissions in tons/yr	1.16	1.16	5.88	37.24	1.05	9.89

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp)	379.6
Limited Throughput (hp-hr/yr)	3325000
Limited Diesel Usage (gal/yr)	169891

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Limited Emissions in tons/yr	1.16	1.16	6.72	39.90	1.17	9.14

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	2000												
Potential Emissions (PM)													
Screen	SP034	350	ton/hr x	0.0250	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	38.33	tons/yr	8.75	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.48	tons/yr	0.57	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			56.50	tons/yr	12.90	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			4.14	tons/yr	0.94	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:									137.92	tons/yr			
Potential Emissions (PM10)													
Screen	SP034	350	ton/hr x	0.0087	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	13.34	tons/yr	3.05	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			36.48	tons/yr	8.33	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			1.17	tons/yr	0.27	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			15.06	tons/yr	3.44	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			4.14	tons/yr	0.94	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:									70.18	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 350 ton/hr x 8760 hr/yr = 3066000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 36.48 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 36.48 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 2.48 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 1.17 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

3066000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 36070.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 36070.6 deliveries/year = 18035.3 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 56.50 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 15.06 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS042 320 kW TOTAL 320 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Potential Capacity (MMBtu/hr) 3.00

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	4.08	4.08	3.82	58.02	4.74	12.50

B. Emissions calculated based on output rating (hp)
Potential Capacity (hp) 429.1
Potential Throughput (hp-hr/yr) 3759091
Potential Diesel Usage (gal/yr) 192070

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	4.14	4.14	3.85	58.27	4.73	12.56

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 2000												Limited Generator Diesel Usage				131,528 GPY
Limited Emissions (PM)																
Screen	SP034	350	ton/hr x	0.00220	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.37	tons/yr	0.77	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.65	tons/yr	0.83	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.25	tons/yr	0.06	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			5.65	tons/yr	1.29	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:									15.75	tons/yr			
Limited Emissions (PM10)																
Screen	SP034	350	ton/hr x	0.00074	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	1.13	tons/yr	0.26	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			3.65	tons/yr	0.83	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.12	tons/yr	0.03	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			1.51	tons/yr	0.34	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Generator(s)						** see below **			2.83	tons/yr	0.65	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:									9.24	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 350 ton/hr x 8760 hr/yr = 3066000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.65 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 3.65 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.25 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.12 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

3066000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 36070.6 deliveries/year
0.25 miles/trip * 2 trips/delivery * 36070.6 deliveries/year = 18035.3 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 5.65 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 1.51 TPY PM10

Generator(s)
The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS042 320 kW TOTAL 320 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)
Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)
Limited Capacity (hp) 293.9
Limited Throughput (hp-hr/yr) 2574194
Limited Diesel Usage (gal/yr) 131528

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.64	39.90	3.24	8.60

Methodology
Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**2002**					
Potential Emissions (PM)						
Generator(s)	** see below **	4.11	tons/yr	0.94	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM emissions before controls:		4.11	tons/yr			
Potential Emissions (PM10)						
Generator(s)	** see below **	4.11	tons/yr	0.94	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM10 emissions before controls:		4.11	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: GS043 1000 kW

TOTAL 1000 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 9.39

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Potential Emission in tons/yr	4.11	4.11	20.76	131.57	3.70	34.95

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	1341.0
Potential Throughput (hp-hr/yr)	11747160
Potential Diesel Usage (gal/yr)	600220

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Potential Emission in tons/yr	4.11	4.11	23.76	140.97	4.14	32.30

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**2002**		**Limited Generator Diesel Usage**				**169,891 GPY**
Limited Emissions (PM)							
Generator(s)		** see below **	1.16	tons/yr	0.27	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM emissions after controls:			1.16	tons/yr			
Limited Emissions (PM10)							
Generator(s)		** see below **	1.16	tons/yr	0.27	lb/hr	AP-42 Ch. 3.4.4 (10/96)
Total PM10 emissions after controls:			1.16	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.4-1, 10/96):

Generator: GS043 1000 kW

TOTAL 1000 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Limited Capacity (MMBtu/hr) 2.66

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.1	0.1	0.505	3.2	0.09	0.85
Limited Emissions in tons/yr	1.16	1.16	5.88	37.24	1.05	9.89

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp)	379.6
Limited Throughput (hp-hr/yr)	3325000
Limited Diesel Usage (gal/yr)	169891

	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	4.05E-03	0.0240	7.05E-04	0.0055
Limited Emissions in tons/yr	1.16	1.16	6.72	39.90	1.17	9.14

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)

*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year: 2003													
Potential Emissions (PM)													
Conveyors (11)	EU6	800	ton/hr x	0.0030	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	10.51	tons/yr	2.40	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			83.37	tons/yr	19.03	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			5.66	tons/yr	1.29	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			129.15	tons/yr	29.49	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions before controls:									228.70	tons/yr			
Potential Emissions (PM10)													
Conveyors (11)	EU6	800	ton/hr x	0.0011	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	3.85	tons/yr	0.88	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			83.37	tons/yr	19.03	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			2.68	tons/yr	0.61	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			34.42	tons/yr	7.86	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions before controls:									124.32	tons/yr			

Storage
Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 800 ton/hr x 8760 hr/yr = 7008000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 1.77 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 15 % of wind greater than or equal to 12 mph

Uncontrolled PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 83.37 TPY PM
Uncontrolled PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) = 83.37 TPY PM10

Aggregate Handling
The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Uncontrolled PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) = 5.66 tons/yr
Uncontrolled PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) = 2.68 tons/yr

Unpaved Roads
The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a):

7008000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 82447.1 deliveries/year
0.25 miles/trip * 2 trips/delivery * 82447.1 deliveries/year = 41223.5 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Uncontrolled PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton = 129.15 TPY PM
Uncontrolled PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton = 34.42 TPY PM10

Year:	**2003**		**Limited Pile Capacity**		**5,848,000**	**TPY**						
Limited Emissions (PM)												
Conveyors (11)	EU6	800	ton/hr x	0.00014	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.49	tons/yr	0.11	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			11.60	tons/yr	2.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.57	tons/yr	0.13	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			10.78	tons/yr	2.46	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM emissions after controls:									23.43	tons/yr			
Limited Emissions (PM10)												
Conveyors (11)	EU6	800	ton/hr x	4.60E-05	lb/ton	/ 2000 lb/ton x	8760	hr/yr =	0.16	tons/yr	0.04	lb/hr	AP-42 Ch. 11.19.2 (8/04)
Storage						** see below **			11.60	tons/yr	2.65	lb/hr	Air Pollution Engineering Manual
Aggregate Handling						** see below **			0.27	tons/yr	0.06	lb/hr	AP-42 Ch. 13.2.4 (11/06)
Unpaved Roads						** see below **			2.87	tons/yr	0.66	lb/hr	AP-42 Ch. 13.2.2 (11/06)
Total PM10 emissions after controls:									14.90	tons/yr			

Storage

Storage emissions, which result from wind erosion (Air Pollution Engineering Manual; p 136; Eqn. 5; AWMA; 1992):

Pile capacity (PC) = 5848000 tons
Pile density (PD) = 40 cu-ft/ton
Pile height (PH) = 25 ft

Emission Factor Ef = 1.7*(s/1.5)*(365-p)/235*(f/15) = 2.96 lb/acre/day
where s = 1.6 % silt content of material
p = 135 days of rain greater than or equal to 0.01 inches
f = 25 % of wind greater than or equal to 12 mph

Limited PTE PM = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 11.60 TPY PM
Limited PTE PM10 = Emission Factor Ef * PC * PD / (2000 lbs/ton) / (43560 sqft/acre) / PH * (365 days/year) * (1-90%) = 11.60 TPY PM10

Aggregate Handling

The following calculations determine the amount of emissions created by dropping of material (AP-42, Sec. 13.2.4, eq. 1):

Emission Factor Ef = k*(0.0032)* (U/5)^1.3/(M/2)^1.4 = 0.0016 lb PM/ton
where k = 0.74 particle size multiplier for PM30(PM)=0.74, PM10=0.35 = 0.0008 lb PM10/ton
U = 10 mean wind speed, m/s
M = 5 % material moisture content

Limited PTE PM = total processing throughput * Emission Factor Ef (PM) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.57 tons/yr
Limited PTE PM10 = total processing throughput * Emission Factor Ef (PM10) * (8760 hrs/yr) / (2000 lbs/ton) * (1-90%) = 0.27 tons/yr

Unpaved Roads

The following calculations determine the amount of emissions created by loose dry surface dust on unpaved roads (AP-42, Sec. 13.2.2, eq. 1a and eq. 2):

5848000 tons/year ÷ 42.5 tons/trip ÷ 2 trips/delivery = 68800.0 deliveries/year
0.25 miles/trip * 2 trips/delivery * 68800.0 deliveries/year = 34400.0 miles per year

Emission Factor Ef = k*[(s/12)^a]*[(W/3)^b]*[(365-P)/365] = 6.27 lb PM/mile
where k = 4.9 particle size multiplier: TSP(PM)=4.9, PM10=1.5 = 1.67 lb PM10/mile
s = 6 mean % silt content of unpaved roads
a= 0.7 constant: TSP(PM)=0.7, PM10=0.9
W = 42.5 tons average vehicle weight
b = 0.45 constant: TSP(PM)=0.45, PM10=0.45
P = 135 days of rain greater than or equal to 0.01 inches

Limited PTE PM = Miles per year * emission factor Ef (PM) / 2000 lb/ton * (1-90%) = 10.78 TPY PM
Limited PTE PM10 = Miles per year * emission factor Ef (PM10) / 2000 lb/ton * (1-90%) = 2.87 TPY PM10

Appendix A: Emission Calculations
2005 PTE

Year: 2005					
Potential Emissions (PM)					
Generator(s)	** see below **	3.23 tons/yr	0.74 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM emissions before controls:		3.23 tons/yr			
Potential Emissions (PM10)					
Generator(s)	** see below **	3.23 tons/yr	0.74 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM10 emissions before controls:		3.23 tons/yr			
Potential Emissions (PM2.5)					
Generator(s)	** see below **	3.23 tons/yr	0.74 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM emissions before controls:		3.23 tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS045 250 kW TOTAL 250 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 2.35

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	3.19	3.19	3.19	2.98	45.33	3.70	9.76

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp) 335.3
Potential Throughput (hp-hr/yr) 2936790
Potential Diesel Usage (gal/yr) 150055

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	3.23	3.23	3.23	3.01	45.52	3.69	9.81

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)
Potential Througput (hp-hr/yr) = hp * 8760 hr/yr
Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensabl

Appendix A: Emission Calculations
2005 Limited

Year: 2005		**Limited Generator Diesel Usage**			**131,528 GPY**
Limited Emissions (PM)					
Generator(s)	** see below **	2.83 tons/yr	0.65 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM emissions after controls:		2.83 tons/yr			
Limited Emissions (PM10)					
Generator(s)	** see below **	2.83 tons/yr	0.65 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM10 emissions after controls:		2.83 tons/yr			
Limited Emissions (PM2.5)					
Generator(s)	** see below **	2.83 tons/yr	0.65 lb/hr	AP-42 Ch. 3.3.4 (10/96)	
Total PM10 emissions after controls:		2.83 tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS045 250 kW TOTAL 250 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Limited Capacity (MMBtu/hr) 2.06

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.79	2.79	2.79	2.61	39.73	3.24	8.56

B. Emissions calculated based on output rating (hp)

Limited Capacity (hp)	293.9
Limited Throughput (hp-hr/yr)	2574194
Limited Diesel Usage (gal/yr)	131528

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.83	2.83	2.83	2.64	39.90	3.24	8.60

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)
Througput (hp-hr/yr) = hp * 8760 hr/yr
Limited Capacity (hp) = Potential Capacity (hp) * (Limited NOx Emissions [39.9 tons]) / (Maximum Potential NOx Emissions)
Limited Emissions (tons/yr) = Limited Capacity (MMBtu/hr) x Emission Factor (lb/MMBtu) * 8760 hr/yr / (2,000 lb/ton)
Limited Emissions (tons/yr) = Limited Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr) / (2,000 lb/ton)

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Year:	**2006**					
Potential Emissions (PM)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions before controls:		2.58	tons/yr			
Potential Emissions (PM10)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:		2.58	tons/yr			
Potential Emissions (PM2.5)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions before controls:		2.58	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS046 200 kW TOTAL 200 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.88

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.31	0.29	4.41	0.4	0.95
Potential Emission in tons/yr	2.55	2.55	2.55	2.38	36.26	2.96	7.81

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp)	268.2
Potential Throughput (hp-hr/yr)	2349432
Potential Diesel Usage (gal/yr)	120044

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	2.58	2.58	2.58	2.41	36.42	2.95	7.85

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensabl

Appendix A: Emission Calculations
2006 Limited

Year:	**2006**					
Limited Emissions (PM)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM emissions after controls:		2.58	tons/yr			
Limited Emissions (PM10)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:		2.58	tons/yr			
Limited Emissions (PM2.5)						
Generator(s)	** see below **	2.58	tons/yr	0.59	lb/hr	AP-42 Ch. 3.3.4 (10/96)
Total PM10 emissions after controls:		2.58	tons/yr			

Generator(s)

The following calculations determine the amount of emissions created by generator usage (AP-42, Table 3.3-1, 10/96):

Generator: GS046 200 kW TOTAL 200 kW

A. Emissions calculated based on heat input capacity (MMBtu/hr)

Potential Capacity (MMBtu/hr) 1.88

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMBtu	0.31	0.31	0.31	0.29	4.41	0.4	0.95
Limited Emissions in tons/yr	2.55	2.55	2.55	2.38	36.26	2.96	7.81

B. Emissions calculated based on output rating (hp)

Potential Capacity (hp) 268.2
Potential Throughput (hp-hr/yr) 2349432
Potential Diesel Usage (gal/yr) 120044

	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Limited Emissions in tons/yr	2.58	2.58	2.58	2.41	36.42	2.95	7.85

Methodology

Use a conversion factor of 7,000 Btu per hp-hr to convert from horsepower to Btu/hr, unless the source gives you a source-specific brake-specific fuel consumption. (AP-42, Footnote a, Table 3.3-1)

Emissions (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Indiana Department of Environmental Management
Office of Air Quality

Appendix B (Permit Level Determinations)
to Technical Support Document (TSD)
for a Part 70 Significant Source Modification

Source Description and Location

Source Name:	Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc.
Source Location:	3210 Watling Street, East Chicago, IN 46312
Mailing Address:	3411 Sheffield Avenue, Hammond, IN 46327
County:	Lake
SIC Code:	3312
Operation Permit No.:	T 089-6580-00356
Operation Permit Issuance Date:	May 25, 2006
Significant Source Modification No.:	089-24137-00356
Significant Permit Modification No.:	089-24225-00356
Permit Reviewer:	John Haney

The Office of Air Quality (OAQ) has reviewed a modification application submitted by Beemsterboer Slag Corporation, a contractor of ArcelorMittal USA, Inc., on December 29, 2006, relating to the addition of existing CWOP/OWOP equipment.

Description of Facility (Prior to 1977)

The following is a list of the proposed emission units, installed prior to 1977:

(i) One conveyor shuttle, installed in 1970, identified as SH035, with a maximum capacity of 425 tons per hour;

(j) One conveyor feeder, installed in 1973, identified as CF017, with a maximum capacity of 350 tons per hour;

(k) One conveyor stacker, installed in 1973, identified as CS003, with a maximum capacity of 380 tons per hour;

(l) One screen, installed in 1973, identified as SP001, with a maximum capacity of 350 tons per hour;

(m) One screen, installed in 1974, identified as SP002, with a maximum capacity of 350 tons per hour;

(n) One diesel generator, installed in 1974, identified as GS004, with a maximum capacity of 200 kW;

(o) One conveyor feeder, installed in 1975, identified as CF024, with a maximum capacity of 450 tons per hour;

(p) One screen, installed in 1975, identified as SP005, with a maximum capacity of 350 tons per hour; and

(q) One conveyor stacker, installed in 1976, identified as CS035, with a maximum capacity of 350 tons per hour.

These emission units have been grandfathered into the permit.

PTE Before Controls of the Facility	
Pollutant	**Potential To Emit** (tons/yr)
PM	249.36
PM_{10}	109.76
SO_2	2.41
NO_X	36.42
VOC	2.96
CO	7.85

Since IDEM has determined that ArcelorMittal USA, Inc. and Beemsterboer Slag Corporation are considered one source due to contractual control, Beemsterboer Slag Corporation is classified as an integrated steel mill and is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Since the potential to emit of PM and PM_{10} are both greater than 100 tons per year, the source is defined as an existing major stationary source.

Description of Proposed Modification (1977)

The following is a list of the proposed emission units, installed in 1977:

(r) One conveyor stacker, installed in 1977, identified as CS018, with a maximum capacity of 300 tons per hour;

(s) One conveyor stacker, installed in 1977, identified as CS006, with a maximum capacity of 400 tons per hour;

(t) One conveyor stacker, installed in 1977, identified as CS012, with a maximum capacity of 600 tons per hour;

(u) One screen, installed in 1977, identified as SP007, with a maximum capacity of 350 tons per hour;

(v) One conveyor shuttle, installed in 1977, identified as SH010, with a maximum capacity of 300 tons per hour; and

(w) One conveyor shuttle, installed in 1977, identified as SH013, with a maximum capacity of 425 tons per hour.

Permit Level Determination – Part 70 (1977)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	161.45
PM_{10}	75.22
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1977)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Stackers (3)	0.80	0.26	0	0	0	0
Screen	3.37	1.13	0	0	0	0
Conveyor Shuttles (2)	0.44	0.15	0	0	0	0
Storage	3.13	3.13	0	0	0	0
Aggregate Handling	1.68	0.80	0	0	0	0
Unpaved Roads	4.84	1.29	0	0	0	0
Total for Modification	**14.27**	**6.75**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to APC-23 (Limitations for Particulate Emissions From Stationary Sources), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1978)

The following is a list of the proposed emission units, installed in 1978:

(x) One conveyor feeder, installed in 1978, identified as CF013, with a maximum capacity of 350 tons per hour;

(y) One conveyor stacker, installed in 1978, identified as CS028, with a maximum capacity of 400 tons per hour;

(z) One conveyor shuttle, installed in 1978, identified as SH007, with a maximum capacity of 275 tons per hour;

(aa) One conveyor shuttle, installed in 1978, identified as SH008, with a maximum capacity of 280 tons per hour; and

(bb) One conveyor shuttle, installed in 1978, identified as SH016, with a maximum capacity of 400 tons per hour.

Permit Level Determination – Part 70 (1978)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	107.53
PM_{10}	54.42
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1978)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.21	0.07	0	0	0	0
Conveyor Stacker	0.25	0.08	0	0	0	0
Conveyor Shuttles (3)	0.59	0.20	0	0	0	0
Storage	2.87	2.87	0	0	0	0
Aggregate Handling	1.21	0.57	0	0	0	0
Unpaved Roads	4.44	1.18	0	0	0	0
Total for Modification	**9.56**	**4.96**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to APC-23 (Limitations for Particulate Emissions From Stationary Sources), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1979)

The following is a list of the proposed emission units, installed in 1979:

(cc) One conveyor stacker, installed in 1979, identified as CS033, with a maximum capacity of 375 tons per hour.

Permit Level Determination – Part 70 (1979)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	107.20
PM_{10}	58.28
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1979)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Stacker	0.23	0.08	0	0	0	0
Storage	3.91	3.91	0	0	0	0
Aggregate Handling	0.27	0.13	0	0	0	0
Unpaved Roads	6.05	1.61	0	0	0	0
Total for Modification	**10.46**	**5.72**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to APC-23 (Limitations for Particulate Emissions From Stationary Sources), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1980)

The following is a list of the proposed emission units, installed in 1980:

(dd) One conveyor stacker, installed in 1980, identified as CS015, with a maximum capacity of 400 tons per hour;

(ee) One conveyor stacker, installed in 1980, identified as CS026, with a maximum capacity of 200 tons per hour;

(ff) One conveyor shuttle, installed in 1980, identified as SH001, with a maximum capacity of 600 tons per hour;

(gg) One screen, installed in 1980, identified as SP003, with a maximum capacity of 300 tons per hour;

(hh) One screen, installed in 1980, identified as SP008, with a maximum capacity of 350 tons per hour;

(ii) One diesel generator, installed in 1980, identified as GS011, with a maximum capacity of 155 kW;

(jj) One diesel generator, installed in 1980, identified as GS013, with a maximum capacity of 100 kW; and

(kk) One diesel generator, installed in 1980, identified as GS015, with a maximum capacity of 105 kW.

Permit Level Determination – Part 70 (1980)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	157.83
PM_{10}	70.85
SO_2	4.33
NO_X	65.55
VOC	5.33
CO	14.12

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1980)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Stackers (2)	0.37	0.12	0	0	0	0
Conveyor Shuttle	0.37	0.12	0	0	0	0
Screens (2)	6.26	2.10	0	0	0	0
Storage	2.08	2.08	0	0	0	0
Aggregate Handling	1.31	0.62	0	0	0	0
Unpaved Roads	3.23	0.86	0	0	0	0
Generators (3)	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**16.45**	**8.74**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the three (3) diesel generators, installed in 1980, identified as GS011, GS013, and GS015, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

Description of Proposed Modification (1981)

The following is a list of the proposed emission units, installed in 1981:

(ll) Two (2) conveyor feeders, installed in 1981, identified as CF008 and CF009, each with a maximum capacity of 450 tons per hour;

(mm) One conveyor stacker, installed in 1981, identified as CS011, with a maximum capacity of 600 tons per hour;

(nn) One conveyor stacker, installed in 1981, identified as CS032, with a maximum capacity of 340 tons per hour;

(oo) One diesel generator, installed in 1981, identified as GS016, with a maximum capacity of 60 kW; and

(pp) One diesel generator, installed in 1981, identified as GS017, with a maximum capacity of 135 kW.

Permit Level Determination – Part 70 (1981)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	130.05
PM_{10}	67.61
SO_2	2.35
NO_X	35.51
VOC	2.89
CO	7.65

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1981)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeders (2)	0.56	0.18	0	0	0	0
Conveyor Stackers (2)	0.58	0.19	0	0	0	0
Storage	3.54	3.54	0	0	0	0
Aggregate Handling	1.30	0.62	0	0	0	0
Unpaved Roads	5.49	1.46	0	0	0	0
Generators (2)	2.52	2.52	2.35	35.51	2.89	7.65
Total for Modification	**13.98**	**8.51**	**2.35**	**35.51**	**2.89**	**7.65**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1982)

The following is a list of the proposed emission units, installed in 1982:

(qq) One screen, installed in 1982, identified as SP014, with a maximum capacity of 200 tons per hour.

Permit Level Determination – Part 70 (1982)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	76.45
PM_{10}	37.74
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1982)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Screen	1.93	0.65	0	0	0	0
Storage	2.08	2.08	0	0	0	0
Aggregate Handling	1.42	0.67	0	0	0	0
Unpaved Roads	3.23	0.86	0	0	0	0
Total for Modification	**8.66**	**4.26**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1983)

The following is a list of the proposed emission units, installed in 1983:

(rr) One conveyor feeder, installed in 1983, identified as BH004, with a maximum capacity of 350 tons per hour;

(ss) One conveyor feeder, installed in 1983, identified as CF011, with a maximum capacity of 250 tons per hour;

(tt) One conveyor shuttle, installed in 1983, identified as SH006, with a maximum capacity of 375 tons per hour;

(uu) One conveyor shuttle, installed in 1983, identified as SH011, with a maximum capacity of 475 tons per hour; and

(vv) One diesel generator, installed in 1983, identified as GS019, with a maximum capacity of 25 kW.

Permit Level Determination – Part 70 (1983)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	96.06
PM_{10}	48.97
SO_2	0.30
NO_X	4.55
VOC	0.37
CO	0.98

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1983)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeders (2)	0.36	0.12	0	0	0	0
Conveyor Shuttles (2)	0.52	0.18	0	0	0	0
Storage	2.61	2.61	0	0	0	0
Aggregate Handling	1.03	0.49	0	0	0	0
Unpaved Roads	4.04	1.08	0	0	0	0
Generator	0.32	0.32	0.30	4.55	0.37	0.98
Total for Modification	**8.88**	**4.78**	**0.30**	**4.55**	**0.37**	**0.98**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1984)

The following is a list of the proposed emission units, installed in 1984:

(ww) One conveyor stacker, installed in 1984, identified as CS021, with a maximum capacity of 340 tons per hour;

(xx) One diesel generator, installed in 1984, identified as GS020, with a maximum capacity of 180 kW; and

(yy) One diesel generator, installed in 1984, identified as GS022, with a maximum capacity of 125 kW.

Permit Level Determination – Part 70 (1984)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	101.14
PM_{10}	56.78
SO_2	3.67
NO_X	55.53
VOC	4.51
CO	11.97

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1984)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Stacker	0.21	0.07	0	0	0	0
Storage	3.54	3.54	0	0	0	0
Aggregate Handling	0.24	0.11	0	0	0	0
Unpaved Roads	5.49	1.46	0	0	0	0
Generators (2)	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**12.31**	**8.02**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the two (2) diesel generators, installed in 1984, identified as GS020 and GS022, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1985)

The following is a list of the proposed emission units, installed in 1985:

(zz) One conveyor feeder, installed in 1985, identified as CF012, with a maximum capacity of 250 tons per hour;

(aaa) One conveyor feeder, installed in 1985, identified as CF022, with a maximum capacity of 450 tons per hour;

(bbb) One conveyor stacker, installed in 1985, identified as CS030, with a maximum capacity of 340 tons per hour;

(ccc) One conveyor shuttle, installed in 1985, identified as SH012, with a maximum capacity of 425 tons per hour; and

(ddd) One diesel generator, installed in 1985, identified as GS021, with a maximum capacity of 40 kW.

Permit Level Determination – Part 70 (1985)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	96.55
PM_{10}	49.29
SO_2	0.48
NO_X	7.28
VOC	0.59
CO	1.57

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1985)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeders (2)	0.43	0.14	0	0	0	0
Conveyor Stacker	0.21	0.07	0	0	0	0
Conveyor Shuttle	0.26	0.09	0	0	0	0
Storage	2.61	2.61	0	0	0	0
Aggregate Handling	1.04	0.49	0	0	0	0
Unpaved Roads	4.04	1.08	0	0	0	0
Generator	0.52	0.52	0.48	7.28	0.59	1.57
Total for Modification	**9.09**	**4.98**	**0.48**	**7.28**	**0.59**	**1.57**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-1-2 (Particulate Emission Limitations), fugitive particulate matter emissions shall be controlled by wet suppression.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1986)

The following is a list of the proposed emission units, installed in 1986:

(eee) One diesel generator, installed in 1986, identified as GS023, with a maximum capacity of 150 kW.

Permit Level Determination – Part 70 (1986)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	1.94
PM_{10}	1.94
SO_2	1.81
NO_X	27.31
VOC	2.22
CO	5.89

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of nitrogen oxides (NO_x) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1986)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator	1.94	1.94	1.81	27.31	2.22	5.89
Total for Modification	**1.94**	**1.94**	**1.81**	**27.31**	**2.22**	**5.89**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Description of Proposed Modification (1987)

The following is a list of the proposed emission units, installed in 1987:

(fff) One conveyor feeder, installed in 1987, identified as CF010, with a maximum capacity of 450 tons per hour;

(ggg) Two (2) conveyor stackers, installed in 1987, identified as CS023 and CS025, each with a maximum capacity of 340 tons per hour; and

(hhh) One diesel generator, installed in 1987, identified as GS024, with a maximum capacity of 180 kW.

Permit Level Determination – Part 70 (1987)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	115.50
PM_{10}	61.62
SO_2	2.17
NO_X	32.77
VOC	2.66
CO	7.06

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1987)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.28	0.09	0	0	0	0
Conveyor Stackers (2)	0.42	0.14	0	0	0	0
Storage	3.54	3.54	0	0	0	0
Aggregate Handling	0.80	0.38	0	0	0	0
Unpaved Roads	5.49	1.46	0	0	0	0
Generator	2.33	2.33	2.17	32.77	2.66	7.06
Total for Modification	**12.85**	**7.94**	**2.17**	**32.77**	**2.66**	**7.06**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1988)

The following is a list of the proposed emission units, installed in 1988:

(iii) One crusher, installed in 1988, identified as CP005, with a maximum capacity of 400 tons per hour;

(jjj) One conveyor stacker, installed in 1988, identified as CS005, with a maximum capacity of 550 tons per hour;

(kkk) One conveyor shuttle, installed in 1988, identified as SH005, with a maximum capacity of 400 tons per hour;

(lll) One conveyor shuttle, installed in 1988, identified as SH052, with a maximum capacity of 500 tons per hour;

(mmm) One diesel generator, installed in 1988, identified as GS025, with a maximum capacity of 175 kW; and

(nnn) One diesel generator, installed in 1988, identified as GS026, with a maximum capacity of 90 kW.

Permit Level Determination – Part 70 (1988)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	151.30
PM_{10}	79.71
SO_2	3.19
NO_X	48.25
VOC	3.92
CO	10.40

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1988)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Crusher	2.10	0.95	0	0	0	0
Conveyor Stacker	0.34	0.11	0	0	0	0
Conveyor Shuttles (2)	0.56	0.18	0	0	0	0
Storage	4.17	4.17	0	0	0	0
Aggregate Handling	1.31	0.62	0	0	0	0
Unpaved Roads	6.46	1.72	0	0	0	0
Generators (2)	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**17.76**	**10.58**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the two (2) diesel generators, installed in 1988, identified as GS025 and GS026, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

Description of Proposed Modification (1989)

The following is a list of the proposed emission units, installed in 1989:

(ooo) One screen, installed in 1989, identified as SP009, with a maximum capacity of 275 tons per hour.

Permit Level Determination – Part 70 (1989)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	105.11
PM_{10}	51.89
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1989)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Screen	2.65	0.89	0	0	0	0
Storage	2.87	2.87	0	0	0	0
Aggregate Handling	0.19	0.09	0	0	0	0
Unpaved Roads	4.44	1.18	0	0	0	0
Total for Modification	**10.15**	**5.03**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1990)

The following is a list of the proposed emission units, installed in 1990:

(ppp) One conveyor feeder, installed in 1990, identified as CF014, with a maximum capacity of 350 tons per hour; and

(qqq) One conveyor stacker, installed in 1990, identified as CS029, with a maximum capacity of 350 tons per hour.

Permit Level Determination – Part 70 (1990)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	107.13
PM_{10}	57.25
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1990)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.21	0.07	0	0	0	0
Conveyor Stacker	0.21	0.07	0	0	0	0
Storage	3.65	3.65	0	0	0	0
Aggregate Handling	0.50	0.23	0	0	0	0
Unpaved Roads	5.65	1.51	0	0	0	0
Total for Modification	**10.22**	**5.53**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1991)

The following is a list of the proposed emission units, installed in 1991:

(rrr) One conveyor feeder, installed in 1991, identified as CF007, with a maximum capacity of 400 tons per hour.

Permit Level Determination – Part 70 (1991)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	114.35
PM_{10}	62.16
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1991)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.25	0.08	0	0	0	0
Storage	4.17	4.17	0	0	0	0
Aggregate Handling	0.28	0.13	0	0	0	0
Unpaved Roads	6.46	1.72	0	0	0	0
Total for Modification	**11.15**	**6.10**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1992)

The following is a list of the proposed emission units, installed in 1992:

(sss) One crusher, installed in 1992, identified as CP007, with a maximum capacity of 400 tons per hour; and

(ttt) One diesel generator, installed in 1992, identified as GS029, with a maximum capacity of 40 kW.

Permit Level Determination – Part 70 (1992)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	243.25
PM_{10}	108.94
SO_2	14.74
NO_X	91.86
VOC	3.08
CO	22.54

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1992)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
New Units						
Crusher (CP007)	2.10	0.95	0	0	0	0
Storage	0.22	0.22	0	0	0	0
Aggregate Handling	0.28	0.13	0	0	0	0
Unpaved Roads	0.20	0.05	0	0	0	0
Generator (GS029)	0.52	0.52	0.48	7.28	0.59	1.57
Existing Units (OP: T089-6580-00356)						
Crushers (EU2, EU3, EU4)**	7.49	3.36	0	0	0	0
Fourteen (14) Conveyors**	0.49	0.16	0	0	0	0
Screens**	7.71	2.59	0	0	0	0
Feeder Box, Magnets, Crane**	0	0	0	0	0	0
Storage**	1.45	1.45	0	0	0	0
Aggregate Handling**	2.14	1.01	0	0	0	0
Unpaved Roads**	1.35	0.36	0	0	0	0
Generator (EU1/GS033)**	0.95	0.70	5.50	32.62	0.96	8.09
Total for Modification	**24.90**	**11.77**	**5.98**	**39.90**	**1.55**	**9.66**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

** Since this permit modifies the applicability of the PSD limit for the emission units approved for construction pursuant to OP 089-6580-00356, the emissions from these emission units that were additionally approved for construction pursuant to OP 089-6580-00356 have also been included in this permit to verify PSD applicability.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) Pursuant to Operating Permit T089-6580-00356 issued on May 25, 2006, the slag input to the three crushers (identified as EU2, EU3, and EU4), fourteen (14) conveyors (collectively identified as EU6), four (4) screens (collectively identified as EU5), one feeder box, two magnets, and one crane, installed in 1992, shall not exceed 731,308 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The slag input to the crusher (identified as CP007), installed in 1992, shall not exceed 110,300 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) Pursuant to Significant Source Modification 089-24137-00356, the diesel fuel input to the diesel generator, installed in 1992 and reinstated in 2002, identified as EU1/GS033, shall be less than 138,879 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

VOC De Minimis Determination (1992)

(1) Effective November 15, 1990, Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The total emissions increases from this project are 1.30 tons per year or 5.7 pounds per day. Pursuant to 326 IAC 2-1.1-3(h)(2)(D), the VOC de minimis determination is not necessary because the VOC emissions increase from this project is less than fifteen (15) pounds per day.

Description of Proposed Modification (1993)

The following is a list of the proposed emission units, installed in 1993:

(uuu) One conveyor feeder, installed in 1993, identified as CF026, with a maximum capacity of 500 tons per hour.

Permit Level Determination – Part 70 (1993)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	142.94
PM_{10}	77.70
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1993)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.31	0.10	0	0	0	0
Storage	5.21	5.21	0	0	0	0
Aggregate Handling	0.35	0.17	0	0	0	0
Unpaved Roads	8.07	2.15	0	0	0	0
Total for Modification	**13.94**	**7.63**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40**	**40**	**---**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1994)

The following is a list of the proposed emission units, installed in 1994:

(vvv) One diesel generator, installed in 1994, identified as GS030, with a maximum capacity of 40 kW.

Permit Level Determination – Part 70 (1994)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	0.52
PM_{10}	0.52
SO_2	0.48
NO_X	7.28
VOC	0.59
CO	1.57

This source modification is subject to 326 IAC 2-7-10.5(d)(9) because the potential to emit of nitrogen oxides (NO_x) is greater than twenty-five (25) pounds per day (or 4.56 tons per year) before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1994)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator	0.52	0.52	0.48	7.28	0.59	1.57
Total for Modification	0.52	0.52	0.48	7.28	0.59	1.57
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**25***	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

VOC De Minimis Determination (1994)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The total emissions increases from this project are 0.59 tons per year or 3.2 pounds per day. Pursuant to 326 IAC 2-1.1-3(h)(2)(D), the VOC de minimis determination is not necessary because the VOC emissions increase from this project is less than fifteen (15) pounds per day.

Description of Proposed Modification (1995)

The following is a list of the proposed emission units, installed in 1995:

(www) One conveyor feeder, installed in 1995, identified as CF031, with a maximum capacity of 450 tons per hour;

(xxx) One conveyor feeder, installed in 1995, identified as CF032, with a maximum capacity of 500 tons per hour;

(yyy) One conveyor stacker, installed in 1995, identified as CS036, with a maximum capacity of 250 tons per hour;

(zzz) One conveyor stacker, installed in 1995, identified as CS038, with a maximum capacity of 550 tons per hour;

(aaaa) One conveyor stacker, installed in 1995, identified as CS040, with a maximum capacity of 375 tons per hour;

(bbbb) One swing mag, installed in 1995, identified as MG012, with a maximum capacity of 200 tons per hour;

(cccc) One conveyor shuttle, installed in 1995, identified as SH040, with a maximum capacity of 425 tons per hour;

(dddd) Two (2) conveyor shuttles, installed in 1995, identified as SH041 and SH042, each with a maximum capacity of 450 tons per hour;

(eeee) One conveyor shuttle, installed in 1995, identified as SH043, with a maximum capacity of 600 tons per hour;

(ffff) One screen, installed in 1995, identified as SP004, with a maximum capacity of 300 tons per hour;

(gggg) One screen, installed in 1995, identified as SP006, with a maximum capacity of 350 tons per hour;

(hhhh) One diesel generator, installed in 1995, identified as GS031, with a maximum capacity of 105 kW; and

(iiii) One diesel generator, installed in 1995, identified as GS032, with a maximum capacity of 125 kW.

Permit Level Determination – Part 70 (1995)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	215.19
PM_{10}	93.11
SO_2	2.77
NO_X	41.88
VOC	3.40
CO	9.02

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1995)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeders (2)	0.59	0.19	0	0	0	0
Conveyor Stackers (3)	0.72	0.24	0	0	0	0
Swing Mag	0	0	0	0	0	0
Conveyor Shuttles (4)	1.19	0.39	0	0	0	0
Screens (2)	6.26	2.10	0	0	0	0
Storage	2.08	2.08	0	0	0	0
Aggregate Handling	3.47	1.64	0	0	0	0
Unpaved Roads	3.23	0.86	0	0	0	0
Generators (2)	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**20.36**	**10.34**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).

** Although Beemsterboer Slag Corporation should have taken a limit of 25 tons per year of NO_x during this period, they could have subsequently revised their limit to 40 tons per year once the NO_x waiver was established.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the two (2) diesel generators, installed in 1995, identified as GS031 and GS032, shall not exceed 131,528 gallons, collectively, per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

VOC De Minimis Determination (1995)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The potential emissions from this project, when added to the increases from other modifications within a five year contemporaneous period, were less than the de minimis level of 25 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

De Minimis Analysis	
Process/Emission Unit	**VOC (tons/yr)**
Emissions Increase Upon Issuance (Two Diesel Generators)	3.24
One Diesel Generator (1994)	0.59
Two Diesel Generators (1992)	1.55
Emissions Increase for the Project	**5.38**
Emission Offset Threshold	**25**

Description of Proposed Modification (1996)

The following is a list of the proposed emission units, installed in 1996:

(jjjj) One conveyor feeder, installed in 1996, identified as CF034, with a maximum capacity of 500 tons per hour;

(kkkk) Two (2) conveyor stackers, installed in 1996, identified as CS039 and CS041, each with a maximum capacity of 600 tons per hour;

(llll) Two (2) conveyor stackers, installed in 1996, identified as CS044 and CS045, each with a maximum capacity of 900 tons per hour; and

(mmmm) One conveyor shuttle, installed in 1996, identified as SH049, with a maximum capacity of 800 tons per hour.

Permit Level Determination – Part 70 (1996)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	219.78
PM_{10}	108.74
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1996)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.31	0.10	0	0	0	0
Conveyor Stackers (4)	1.84	0.60	0	0	0	0
Conveyor Shuttle	0.49	0.16	0	0	0	0
Storage	5.21	5.21	0	0	0	0
Aggregate Handling	3.04	1.44	0	0	0	0
Unpaved Roads	8.07	2.15	0	0	0	0
Total for Modification	**18.96**	**9.67**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (1997)

The following is a list of the proposed emission units, installed in 1997:

(nnnn) One conveyor feeder, installed in 1997, identified as CF036, with a maximum capacity of 500 tons per hour;

(oooo) One crusher, installed in 1997, identified as CP014, with a maximum capacity of 400 tons per hour;

(pppp) One pugmill, installed in 1997, identified as PG004, with a maximum capacity of 225 tons per hour;

(qqqq) Two (2) conveyor shuttles, installed in 1997, identified as SH050 and SH051, each with a maximum capacity of 450 tons per hour;

(rrrr) One conveyor shuttle, installed in 1997, identified as SH054, with a maximum capacity of 500 tons per hour;

(ssss) One screen, installed in 1997, identified as SP027, with a maximum capacity of 350 tons per hour; and

(tttt) One diesel generator, installed in 1997, identified as GS035, with a maximum capacity of 40 kW.

Permit Level Determination – Part 70 (1997)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	179.57
PM_{10}	79.24
SO_2	0.48
NO_X	7.28
VOC	0.59
CO	1.57

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1997)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.31	0.10	0	0	0	0
Crusher	2.37	1.06	0	0	0	0
Pugmill	2.17	0.73	0	0	0	0
Conveyor Shuttles (3)	0.87	0.28	0	0	0	0
Screen	3.37	1.13	0	0	0	0
Storage	2.34	2.34	0	0	0	0
Aggregate Handling	2.07	0.98	0	0	0	0
Unpaved Roads	3.63	0.97	0	0	0	0
Generator	0.52	0.52	0.48	7.28	0.59	1.57
Total for Modification	**17.64**	**8.12**	**0.48**	**7.28**	**0.59**	**1.57**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of this modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of this modification as follows:

(a) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with this emission limit will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

VOC De Minimis Determination (1997)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The total emissions increases from this project are 0.59 tons per year or 3.2 pounds per day. Pursuant to 326 IAC 2-1.1-3(h)(2)(D), the VOC de minimis determination is not necessary because the VOC emissions increase from this project is less than fifteen (15) pounds per day.

Description of Proposed Modification (1998)

The following is a list of the proposed emission units, installed in 1998:

(uuuu) One diesel generator, installed in 1998, identified as GS038, with a maximum capacity of 600 kW.

Permit Level Determination – Part 70 (1998)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	2.47
PM_{10}	2.47
SO_2	14.26
NO_X	84.58
VOC	2.48
CO	20.97

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of nitrogen oxides (NO_x) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1998)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator	1.16	1.16	6.72	39.90	1.17	9.89
Total for Modification	**1.16**	**1.16**	**6.72**	**39.90**	**1.17**	**9.89**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Since this source is considered a major Emission Offset source with an unrestricted potential to emit of the modification greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 1998, identified as GS038, shall not exceed 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this emission limit will ensure that the potential to emit from the modification is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-3 not applicable.

VOC De Minimis Determination (1998)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The total emissions increases from this project are 1.17 tons per year or 6.4 pounds per day. Pursuant to 326 IAC 2-1.1-3(h)(2)(D), the VOC de minimis determination is not necessary because the VOC emissions increase from this project is less than fifteen (15) pounds per day.

Description of Proposed Modification (1999)

The following is a list of the proposed emission units, installed in 1999:

(vvvv) One conveyor feeder, installed in 1999, identified as CF025, with a maximum capacity of 500 tons per hour;

(wwww) One crusher, installed in 1999, identified as CP012, with a maximum capacity of 300 tons per hour;

(xxxx) One conveyor stacker, installed in 1999, identified as CS043, with a maximum capacity of 1000 tons per hour;

(yyyy) One screen, installed in 1999, identified as SP033, with a maximum capacity of 400 tons per hour; and

(zzzz) One diesel generator, installed in 1999, identified as GS040, with a maximum capacity of 600 kW.

Permit Level Determination – Part 70 (1999)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	168.35
PM_{10}	112.92
SO_2	14.26
NO_X	84.58
VOC	2.48
CO	20.97

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (1999)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Conveyor Feeder	0.31	0.10	0	0	0	0
Crusher	1.58	0.71	0	0	0	0
Conveyor Stacker	0.61	0.20	0	0	0	0
Screen	3.85	1.30	0	0	0	0
Storage	3.13	3.13	0	0	0	0
Aggregate Handling	1.56	0.74	0	0	0	0
Unpaved Roads	4.84	1.29	0	0	0	0
Generator	1.16	1.16	6.72	39.90	1.17	9.89
Total for Modification	**17.04**	**8.63**	**6.72**	**39.90**	**1.17**	**9.89**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 1999, identified as GS040, shall not exceed 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

VOC De Minimis Determination (1999)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The total emissions increases from this project are 1.17 tons per year or 6.4 pounds per day. Pursuant to 326 IAC 2-1.1-3(h)(2)(D), the VOC de minimis determination is not necessary because the VOC emissions increase from this project is less than fifteen (15) pounds per day.

Description of Proposed Modification (2000)

The following is a list of the proposed emission units, installed in 2000:

(aaaaa) One screen, installed in 2000, identified as SP034, with a maximum capacity of 350 tons per hour; and

(bbbbb) One diesel generator, installed in 2000, identified as GS042, with a maximum capacity of 320 kW.

Permit Level Determination – Part 70 (2000)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	137.92
PM_{10}	70.18
SO_2	3.85
NO_X	58.27
VOC	4.74
CO	12.56

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control, because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control, and because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (2000)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Screen	3.37	1.13	0	0	0	0
Storage	3.65	3.65	0	0	0	0
Aggregate Handling	0.25	0.12	0	0	0	0
Unpaved Roads	5.65	1.51	0	0	0	0
Generator	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**15.75**	**8.63**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source and a major Emission Offset source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 2000, identified as GS040, shall not exceed 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Pursuant to 325 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the facility Fugitive Dust Control Plan.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, and forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-2 and 326 IAC 2-3 not applicable.

VOC De Minimis Determination (2000)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The potential emissions from this project, when added to the increases from other modifications within a five year contemporaneous period, were less than the de minimis level of 25 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

De Minimis Analysis	
Process/Emission Unit	**VOC (tons/yr)**
Emissions Increase Upon Issuance (One Diesel Generator)	3.24
One Diesel Generator (1999)	1.17
One Diesel Generator (1998)	1.17
One Diesel Generator (1997)	0.59
Emissions Increase for the Project	**6.17**
Emission Offset Threshold	**25**

Description of Proposed Modification (2002)

Pursuant to Operating Permit T089-6580-00356 issued on May 25, 2006, one (1) diesel generator (EU1) (600 KW (2.05 MMBtu/hr)) installed in 1992 (now identified as GS033) was replaced with one (1) 1000 KW (3.43 MMBtu/hr diesel generator (EU1) installed in 2002 (now identified as GS043). However, the original diesel generator GS033 remained on-site and continued to be in service. This modification is included to reinstate the use of generator GS033 in the facility operating permit.

The following is a list of the proposed emission units, reinstated in 2002:

(ccccc) One diesel generator, installed in 1992 and reinstated in 2002, identified as GS033, with a maximum capacity of 600 kW.

Permit Level Determination – Part 70 (2002)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

All emissions originally accounted for in Operating Permit T089-6580-00356 were for the 600 kW generator (GS033). None of the emissions from the 1000 kW generator (GS043) have been accounted for. The PTE before controls of the 1000 kW generator (GS043) is shown below.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	4.11
PM_{10}	4.11
SO_2	23.76
NO_X	140.97
VOC	4.14
CO	34.95

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of nitrogen oxides (NO_x) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (2002)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

The PTE, reflecting all limits, for the 600 kW generator (GS033) was originally accounted for in Operating Permit T089-6580-00356. None of the emissions from the 1000 kW generator (GS043) have been accounted for. The PTE, reflecting all limits, of the 1000 kW generator (GS043) is shown below.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator (GS043)	1.16	1.16	6.72	39.90	1.17	9.89
Total for Modification	**1.16**	**1.16**	**6.72**	**39.90**	**1.17**	**9.89**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major Emission Offset source with an unrestricted potential to emit of the modification greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 2002, identified as GS043, shall not exceed 169,891 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month. This replaces the existing diesel fuel oil limit of less than 102,367 gallons per 12 consecutive month period as pursuant to Operating Permit T089-6580-00356.

(b) Pursuant to Significant Source Modification 089-24137-00356, the diesel fuel input to the diesel generator, installed in 1992 and reinstated in 2002, identified as EU1/GS033, shall be less than 138,879 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-3 not applicable.

VOC De Minimis Determination (2002)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The potential emissions from this project, when added to the increases from other modifications within a five year contemporaneous period, were less than the de minimis level of 25 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

De Minimis Analysis	
Process/Emission Unit	**VOC (tons/yr)**
Emissions Increase Upon Issuance (One Diesel Generator)	1.17
One Diesel Generator (2000)	3.24
One Diesel Generator (1999)	1.17
One Diesel Generator (1998)	1.17
Emissions Increase for the Project	**6.75**
Emission Offset Threshold	**25**

Description of Proposed Modification (2003)

Pursuant to Operating Permit T089-6580-00356 issued on May 25, 2006, the description of the fourteen (14) conveyors (EU6) with a combined maximum capacity of 800 tons/hr, installed in 1992 was replaced with a description for twenty-five (25) conveyors (EU6) with a combined maximum capacity of 800 tons/hr, installed in 2003. However, the emissions from the additional eleven (11) conveyors were not considered. This modification is included to account for the use of the additional eleven (11) conveyors in the facility operating permit.

Permit Level Determination – Part 70 (2003)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

All emissions originally accounted for in Operating Permit T089-6580-00356 were for the fourteen (14) conveyors (EU6). None of the emissions from the additional eleven (11) conveyors (EU6) have been accounted for. The PTE before controls of the additional eleven (11) conveyors (EU6) is shown below.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	228.70
PM_{10}	124.32
SO_2	0
NO_X	0
VOC	0
CO	0

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of particulate matter (PM) is greater than twenty-five (25) tons per year before control and because the potential to emit of particulate matter less ten micrometers (PM_{10}) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD and Emission Offset (2003)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

The PTE, reflecting all limits, for the fourteen (14) conveyors (EU6) was originally accounted for in Operating Permit T089-6580-00356. None of the emissions from the additional eleven (11) conveyors (EU6) have been accounted for. The PTE, reflecting all limits, of the additional eleven (11) conveyors (EU6) is shown below.

	Potential to Emit (tons/yr)					
Process / Emission Unit	**PM**	**PM_{10}**	**SO_2**	**NO_X**	**VOC**	**CO**
Eleven (11) Conveyors (EU6)	23.43	14.90	0	0	0	0
Total for Modification	**23.43**	**14.90**	**0**	**0**	**0**	**0**
PSD Significant Level	**25**	**15**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**40****	**25***	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).
** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Since this source is considered a major PSD source with an unrestricted potential to emit of the modification greater than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The slag input to the eleven (11) conveyors (collectively identified as EU6), installed in 2003, shall be less than 5,848,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits will ensure that the potential to emit from the modification is less than twenty-five (25) tons of PM per year and fifteen (15) tons of PM_{10} per year and therefore will render the requirements of 326 IAC 2-2 not applicable.

Description of Proposed Modification (2005)

The following is a list of the proposed emission units, installed in 2005:

(ddddd) One diesel generator, installed in 2005, identified as GS045, with a maximum capacity of 250 kW.

Permit Level Determination – Part 70 (2005)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	3.23
PM_{10}	3.23
$PM_{2.5}$	3.23
SO_2	3.01
NO_X	45.52
VOC	3.70
CO	9.81

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of nitrogen oxides (NO_X) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR (2005)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)						
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator	2.83	2.83	2.83	2.64	39.90	3.24	8.60
Total for Modification	**2.83**	**2.83**	**2.83**	**2.64**	**39.90**	**3.24**	**8.60**
PSD Significant Level	**25**	**15**	**---**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**---**	**40****	**25***	**---**
Nonattainment NSR Significant Level	**---**	**---**	**10**	**40**	**---**	**---**	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).

** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset and Nonattainment NSR significant levels. Therefore, pursuant to 326 IAC 2-3 and 326 IAC 2-1.1-5, the Emission Offset and Nonattainment NSR requirements do not apply.

Since this source is considered a major Emission Offset source with an unrestricted potential to emit of the modification greater than forty (40) tons of nitrogen oxides (NO_x) per year, this source has elected to limit the potential to emit of these modifications as follows:

(a) The diesel fuel input to the diesel generator, installed in 2005, identified as GS045, shall not exceed 131,528 gallons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this emission limit will ensure that the potential to emit from the modification is less than forty (40) tons of nitrogen oxides (NO_x) per year and therefore will render the requirements of 326 IAC 2-3 not applicable.

VOC De Minimis Determination (2005)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The potential emissions from this project, when added to the increases from other modifications within a five year contemporaneous period, were less than the de minimis level of 25 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

De Minimis Analysis	
Process/Emission Unit	**VOC (tons/yr)**
Emissions Increase Upon Issuance (One Diesel Generator)	3.24
One Diesel Generator (2002)	1.17
Emissions Increase for the Project	**4.41**
Emission Offset Threshold	**25**

Description of Proposed Modification (2006)

The following is a list of the proposed emission units, installed in 2006:

(eeeee) One diesel generator, installed in 2006, identified as GS046, with a maximum capacity of 200 kW.

Permit Level Determination – Part 70 (2006)

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (tons/yr)
PM	2.58
PM_{10}	2.58
$PM_{2.5}$	2.58
SO_2	2.41
NO_X	36.42
VOC	2.96
CO	7.85

This source modification is subject to 326 IAC 2-7-10.5(f)(4) because the potential to emit of nitrogen oxides (NO_x) is greater than twenty-five (25) tons per year before control. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d), because the modification requires significant changes in existing monitoring Part 70 permit terms and conditions.

Permit Level Determination – PSD, Emission Offset, and Nonattainment NSR (2006)

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential to Emit (tons/yr)						
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Generator	2.58	2.58	2.58	2.41	36.42	2.96	7.85
Total for Modification	**2.58**	**2.58**	**2.58**	**2.41**	**36.42**	**2.96**	**7.85**
PSD Significant Level	**25**	**15**	**---**	**40**	**40**	**40**	**100**
Emission Offset Significant Level	**---**	**---**	**---**	**---**	**40****	**25***	**---**
Nonattainment NSR Significant Level	**---**	**---**	**10**	**40**	**---**	**---**	**---**

* The December, 1993 rule change to the LAER/Emission Offset requirements lowered the threshold of the level of emissions that trigger review as a major modification for severe nonattainment areas from 40 to 25 tons per year of VOCs and nitrogen oxides (NO_x).

** On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NO_x threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major because the emissions increase is less than the Emission Offset and Nonattainment NSR significant levels. Therefore, pursuant to 326 IAC 2-3 and 326 IAC 2-1.1-5, the Emission Offset and Nonattainment NSR requirements do not apply.

VOC De Minimis Determination (2006)

(1) Lake County is classified as a severe nonattainment area for ozone.

(2) Since ArcelorMittal Indiana Harbor, LLC is located in Lake County, the proposed modification must be evaluated to determine if it is a minor modification in terms of 326 IAC 2-3 by determining if the VOC emissions increase is de minimis. [326 IAC 2-3-1(z)]

(3) De minimis means a VOC increase that does not exceed twenty-five (25) tons per year when the net emissions increases from the proposed modification are aggregated with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification. [326 IAC 2-3-1(q)]

(4) The potential emissions from this project, when added to the increases from other modifications within a five year contemporaneous period, were less than the de minimis level of 25 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

De Minimis Analysis	
Process/Emission Unit	**VOC (tons/yr)**
Emissions Increase Upon Issuance (One Diesel Generator)	2.96
One Diesel Generator (2005)	3.24
One Diesel Generator (2002)	1.17
Emissions Increase for the Project	**7.37**
Emission Offset Threshold	**25**