



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: February 6, 2007
RE: Elkhart Brass Manufacturing Company / 039-22655-00072
FROM: Nisha Sizemore
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, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER.dot 03/23/06



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Indianapolis, Indiana 46204-2251
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Minor Source Operating Permit Renewal OFFICE OF AIR QUALITY

**Elkhart Brass Manufacturing Co., Inc.
1302 West Beardsley Ave.
Elkhart, Indiana 46515**

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

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages

Operation Permit No.: MSOP 039-22655-00072	
Issued by: <i>Original document signed by</i> Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: February 6, 2007 Expiration Date: February 6, 2012

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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 and A.2 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 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a brass and aluminum fire fighting equipment manufacturing source.

Authorized Individual:	Foundry Manager
Source Address:	1302 West Beardsley Ave., Elkhart, IN 46515
Mailing Address:	P.O. Box 1127, Elkhart, IN 46515
General Source Phone Number:	(219) 295-8330
SIC Code:	3365 and 3366
County Location:	Elkhart
Source Location Status:	Nonattainment for ozone Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) Grinding and finishing operations with a capacity of 1.75 tons of castings per hour consisting of:
- (1) One (1) grinder, identified as EU1, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (2) One (1) belt grinder, identified as EU2, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (3) One (1) tumblast, identified as EU3, installed in 1979, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.
 - (4) One (1) cut off saw, identified as EU4, installed in 1993, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (5) One (1) belt grinder, identified as EU5, installed in 1989, equipped with a cyclone and a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (6) One (1) grinder, identified as EU6, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (7) One (1) grinder, identified as EU7, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (8) One (1) belt sander, identified as EU8, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.

- (9) One (1) polisher, identified as EU11, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.
- (10) One (1) buffer, identified as EU12, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.
- (11) One (1) surface grinder, identified as EU14, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (12) One (1) wire wheel, identified as EU15, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (13) One (1) buffer, identified as EU16, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.269 tons per hour.
- (14) One (1) buffer, identified as EU17, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (15) One (1) polisher, identified as EU18, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (16) One (1) surface grinder, identified as EU21, installed in 1978, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.
- (17) Two (2) tool grinders, identified as EU22 and EU23, EU22 installed in 1973 & EU23 installed in 1972, each equipped with a cyclone for control, each exhausted to stack 9, capacity: 0.269 tons per hour, each.
- (18) One (1) universal grinder, identified as EU24, installed in 1973, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.
- (19) One (1) tumblast, identified as EU27, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.
- (b) Sand handling operations, equipped with a baghouse for control and exhausting inside via stack 7, with a maximum capacity of 20 tons of sand per hour, consisting of the following:
 - (1) One (1) sand mullor and sand screen, sand distribution belts, and sand bins, identified as EU19, installed in 1982.
 - (2) Two (2) bucket elevator systems for sand, identified as EU38, installed in 1995.
- (c) Core making operations with a maximum capacity of 0.34 tons of shell cores per hour and 0.25 tons of phenolic cured ester cores per hour, consisting of the following:

Two (2) core machines, identified as EU20 and EU101, installed in 1988, exhausted to stack 8.
- (d) One (1) paint booth, identified as EU26, installed in 1970, equipped with dry filters as overspray control, exhausted to stack 10, capacity: 7.9 brass fittings per hour.
- (e) Melting operations with a maximum capacity of 2.50 tons of brass or aluminum per hour, consisting of the following:

- (1) Three (3) induction melt furnaces, identified as EU29, EU30 and EU31, with EU29 and EU30 installed in 1985 and exhausting to a fume duct (identified as EU34) and stack 14, and EU31 installed in 1987 and exhausting to a fume duct (identified as EU35), with all emissions which are not exhausting to the fume ducts exhausted to stack 13, capacity: 2.25 tons per hour, each.
 - (2) Two (2) natural gas heated swing arm crucible furnaces, identified as EU32 and EU33, each installed in 1988 and exhausting to a fume duct (identified as EU36), with all emissions which are not exhausting to the fume duct exhausted to stack 13, capacity: 2.25 tons per hour, each.
- (f) Pouring, cooling, and shakeout operations, with a maximum capacity of 2.50 tons per hour, consisting of the following:
- (1) One (1) Sinto casting line, consisting of mold making, pouring, cooling, and shakeout operations, exhausting to stack S20.
 - (2) One (1) Rollover casting line, consisting of mold making operations.
- (g) Forty-eight (48) natural gas-fired unit heaters, total capacity: 8.93 million British thermal units per hour.
- (h) One (1) arc welder, identified as EU40, installed in 1969, exhausted to stack 20, capacity: 6 inches per minute and 0.018 pounds of weld wire per hour.
- (i) One (1) acetylene welder, identified as EU41, installed in 1969, exhausted to stack 20, capacity: 2 inches per minute and 0.018 pounds of weld wire per hour.
- (j) One (1) acetylene torch/braze/operation, identified as EU45, installed in 1969, exhausted to stack 24, capacity: 5 pieces per hour.
- (k) The following woodworking operations, with a capacity of 0.19 pound per hour:
- (1) One (1) drill press
 - (2) One (1) band saw
 - (3) One (1) wood lathe
 - (4) One (1) wood planer
 - (5) One (1) disc sander for wood
 - (6) One (1) reciprocating sander for wood
 - (7) One (1) table saw for wood
- (l) The following wet metalworking and machining operations:
- (1) Six (6) CNC vertical mills
 - (2) Two (2) CNC horizontal mills
 - (3) Twelve (12) CNC lathes

- (4) Five (5) manual vertical mills
- (5) One (1) manual horizontal mill
- (6) Five (5) manual lathes
- (7) One (1) abrasive cutoff saw
- (9) One (1) surface grinder
- (10) Three (3) grinders
- (11) One (1) carbide grinder
- (12) Four (4) bench grinders
- (13) Fifty (50) hand grinders
- (14) Twenty-seven (27) drill presses
- (15) Three (3) band saws
- (16) Twenty-five (25) belt sanders
- (17) One (1) punch press
- (18) Four (4) multi-station chuckers
- (19) One (1) CNC horizontal band saw
- (m) One (1) enclosed cabinet sand blast used for maintenance, identified as Sand blast 1, exhausting inside through the sand handling baghouse and stack 7, capacity: 125 pounds of walnut shells and 500 pounds of core boxes per hour.
- (n) Six (6) lift trucks and one (1) skid loader operating on liquid propane gas, maximum capacity: 9 gallons of liquid propane gas per hour, total, including the truck constructed in 2005.
- (o) One (1) pipe threader used to apply threads to metal pieces, using a liquid lubricant.
- (p) Four (4) small parts washers, installed in October 1988, containing remote solvent reservoirs, using 570 gallons of degreasing agent and recovering 521 gallons of degreasing agent per year.
- (q) One (1) acetylene welder, identified as EU43, constructed in 2005, exhausting to stack 5, capacity: 0.018 pounds of weld wire per hour.
- (r) One (1) enclosed cabinet sand blast, identified as Sand blast 2, constructed in 2005, exhausting inside through a baghouse, capacity: 400 pounds of beads and 200 pounds of metal parts per hour.
- (s) One (1) natural gas-fired engine, identified as EU104, approved for construction in 2007, capacity: 281 horsepower.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

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 2-1.1-1) shall prevail.

B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit 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.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 Permit Term [326 IAC 2-6.1-7(a)] [326 IAC 2-1.1-9.5] [IC 13-15-3-6(a)]

- (a) This permit, 039-22655-00072, 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 until the renewal permit has been issued or denied.

B.5 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

B.6 Enforceability

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.7 Severability

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.8 Property Rights or Exclusive Privilege

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

B.9 Duty to Provide Information

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

B.10 Certification

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

B.11 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
- (c) The notification 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.

B.12 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:

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

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

- (a) All terms and conditions of permits established prior to 039-22655-00072 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-6.1-7(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 ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.15 Permit Renewal [326 IAC 2-6.1-7]

- (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 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:

- (1) Submitted at least ninety (90) days 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 2-6.1 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.16 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 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
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.17 Source Modification Requirement

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

B.18 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)] [IC 13-14-2-2] [IC13-17-3-2] [IC 13-30-3-1]

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

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

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

B.19 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 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
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.20 Annual Fee Payment [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.
- (b) 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.21 Credible Evidence [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

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

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

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

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

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

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

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

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

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

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

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

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

C.8 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
Indianapolis, Indiana 46204-2251

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

(e) Procedures for Asbestos Emission Control

The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or

three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) Indiana 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.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.9 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
Indianapolis, Indiana 46204-2251

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

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

Compliance Requirements [326 IAC 2-1.1-11]

C.10 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 2-6.1-5(a)(2)]

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

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already

legally required shall be implemented when operation begins.

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]

- (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

C.14 Response to Excursions or Exceedances

- (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.15 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon

request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.18 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) 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
Indianapolis, Indiana 46204-2251

- (b) 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.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Grinding and Finishing

- (a) Grinding and finishing operations with a capacity of 1.75 tons of castings per hour consisting of:
- (1) One (1) grinder, identified as EU1, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (2) One (1) belt grinder, identified as EU2, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (3) One (1) tumblast, identified as EU3, installed in 1979, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.
 - (4) One (1) cut off saw, identified as EU4, installed in 1993, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (5) One (1) belt grinder, identified as EU5, installed in 1989, equipped with a cyclone and a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (6) One (1) grinder, identified as EU6, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (7) One (1) grinder, identified as EU7, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (8) One (1) belt sander, identified as EU8, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (9) One (1) polisher, identified as EU11, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.
 - (10) One (1) buffer, identified as EU12, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.
 - (11) One (1) surface grinder, identified as EU14, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
 - (12) One (1) wire wheel, identified as EU15, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
 - (13) One (1) buffer, identified as EU16, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.269 tons per hour.
 - (14) One (1) buffer, identified as EU17, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
 - (15) One (1) polisher, identified as EU18, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
 - (16) One (1) surface grinder, identified as EU21, installed in 1978, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.

Emissions Unit Description: Grinding and Finishing - Continued

- (17) Two (2) tool grinders, identified as EU22 and EU23, EU22 installed in 1973 & EU23 installed in 1972, each equipped with a cyclone for control, each exhausted to stack 9, capacity: 0.269 tons per hour, each.
- (18) One (1) universal grinder, identified as EU24, installed in 1973, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.
- (19) One (1) tumblast, identified as EU27, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) grinder, identified as EU1, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) belt grinder, identified as EU2, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) tumblast, identified as EU3, shall not exceed 4.55 pounds per hour when operating at a process weight rate of 1.17 tons per hour.
- (d) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) cutoff saw, identified as EU4, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (e) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) belt grinder, identified as EU5, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (f) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) grinder, identified as EU6, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (g) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) grinder, identified as EU7, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (h) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) belt sander, identified as EU8, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.

- (i) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) polisher, identified as EU11, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour.
- (j) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) buffer, identified as EU12, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour
- (k) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) surface grinder, identified as EU14, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour.
- (l) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) wire wheel, identified as EU15, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour.
- (m) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) buffer, identified as EU16, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour
- (n) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) buffer, identified as EU17, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour
- (o) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) polisher, identified as EU18, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour
- (p) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) surface grinder, identified as EU21, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (q) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the two (2) tool grinders, identified as EU22 and EU23, shall not exceed 1.70 pounds per hour, each, when operating at a process weight rate of 0.269 tons per hour, each.
- (r) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) universal grinder, identified as EU24, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour.
- (s) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) tumblast, identified as EU27, shall not exceed 4.55 pounds per hour when operating at a process weight rate of 1.17 tons per hour.

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

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

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

D.1.2 PSD Minor Source Limit [326 IAC 2-2]

Pursuant to MSOP 039-7635-00072, issued on May 1, 2001, the PM emissions after controls from the grinding and finishing operations shall be limited to 3.94 pounds of PM per ton of metal throughput and the metal throughput shall be less than 15,330 tons of castings per twelve (12) consecutive month period, with compliance determined at the end of each month. Compliance with these limits and Conditions D.2.2, D.4.1 and D.5.2, will render the requirements of 326 IAC 2-2, PSD, not applicable to this source.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

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

Compliance Determination Requirements

D.1.4 Particulate Control

- (a) In order to comply with Conditions D.1.1 and D.1.2, the Permittee shall comply with the following:
- (1) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU1, at all times when the grinder is in operation.
 - (2) The baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU2, at all times when the grinder is in operation.
 - (3) The baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU3, at all times when the tumblast is in operation.
 - (4) The baghouse must be in operation and control emissions from the one (1) cutoff saw, identified as EU4, at all times when the cutoff saw is in operation.
 - (5) The cyclone and baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU5, at all times when the belt grinder is in operation.
 - (6) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU6, at all times when the grinder is in operation.
 - (7) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU7, at all times when the grinder is in operation.
 - (8) The baghouse must be in operation and control emissions from the one (1) belt sander, identified as EU8, at all times when the belt sander is in operation.
 - (9) The cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU11, at all times when the polisher is in operation.
 - (10) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU12, at all times when the buffer is in operation.
 - (11) The cyclone and baghouse must be in operation and control emissions from the one (1) surface grinder, identified as EU14, at all times when the surface grinder is in operation.

- (12) The cyclone and baghouse must be in operation and control emissions from the one (1) wire wheel, identified as EU15, at all times when the wire wheel is in operation.
 - (13) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU16, at all times when the buffer is in operation.
 - (14) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU17, at all times when the buffer is in operation.
 - (15) The cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU18, at all times when the polisher is in operation.
 - (16) The cyclone must be in operation and control emissions from the one (1) surface grinder, identified as EU21, at all times when the surface grinder is in operation.
 - (17) The cyclones must be in operation and control emissions from the two (2) tool grinders, identified as EU22 and EU23, at all times when the tool grinders are in operation.
 - (18) The cyclone must be in operation and control emissions from the one (1) universal grinder, identified as EU24, at all times when the universal grinder is in operation.
 - (19) The baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU27, at all times when the tumblast is in operation.
- (b) In the event that failure is observed in a multi-compartment control devices, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.5 Visible Emissions Notations

- (a) Visible emission notations of the grinding and finishing stack exhausts (stacks 1, 5, 6 and 9) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee 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 response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.6 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the grinding and finishing operations at least once per day when the grinding and finishing process exhausting to that baghouse is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 5.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.7 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced.
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit.

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

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Condition D.1.5, the Permittee shall maintain records of visible emission notations of the grinding and finishing stack exhausts once per day.
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records once per day of the pressure drop.
- (c) To document compliance with Condition D.1.2, the Permittee shall keep records of the amount of metal processed through the grinding and machining operations each month.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Sand Handling Operations

- (b) Sand handling operations, equipped with a baghouse for control and exhausting inside via stack 7, with a maximum capacity of 20 tons of sand per hour, consisting of the following:
- (1) One (1) sand mullor and sand screen, sand distribution belts, and sand bins, identified as EU19, installed in 1982.
 - (2) Two (2) bucket elevator systems for sand, identified as EU38, installed in 1995.
- (c) Core making operations with a maximum capacity of 0.34 tons of shell cores per hour and 0.25 tons of phenolic cured ester cores per hour, consisting of the following:
- Two (2) core machines, identified as EU20 and EU101, installed in 1988, exhausted to stack 8.

(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 2-6.1-5(a)(1)]

D.2.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the sand handling operations shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

D.2.2 Minor PSD Source Limit [326 IAC 2-2]

Pursuant to MSOP 039-7635-00072, issued on May 1, 2001, the PM emissions from the sand handling operations, identified as EU19, shall not exceed 1.08 pounds per hour. Compliance with this limit and the limits in Conditions D.1.2, D.4.1, and D.5.2 shall render the requirements of 326 IAC 2-2, PSD, not applicable to this source.

D.2.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the sand handling operations.

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-1.1-11]

Within one hundred and eighty (180) days after issuance of MSOP 039-22655-00072, in order to determine compliance with Condition D.2.2, the Permittee shall conduct a performance test to determine the pre-control PM emission rate, utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

SECTION D.3

FACILITY OPERATION CONDITIONS

Emissions Unit Description: Painting

- (d) One (1) paint booth, identified as EU26, installed in 1970, equipped with dry filters as overspray control, exhausted to stack 10, capacity: 7.9 brass fittings 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 2-6.1-5(a)(1)]

D.3.1 Volatile Organic Compounds (VOCs) [326 IAC 8-2-9]

Pursuant to MSOP 039-7635-00062, issued on May 1, 2001, the volatile organic compound (VOC) usage at one (1) paint booth, identified as EU 26, shall be limited to less than fifteen (15) pounds per day. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

Compliance Determination Requirements

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-4(a)(3)] [326 IAC 8-1-2(a)]

Compliance with the VOC usage limitation contained in Condition D.3.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.3 Record Keeping Requirements

- (a) To document compliance with Condition D.3.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.3.1.
- (1) The VOC content of each coating material and solvent used.
 - (2) The amount of coating material and solvent used less water on daily basis.
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents.
 - (3) The cleanup solvent usage for each day;
 - (4) The total VOC usage for each day; and
 - (5) The weight of VOCs emitted for each compliance period.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.4 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Melting and Casting

- (e) Melting operations with a maximum capacity of 2.50 tons of brass or aluminum per hour, consisting of the following:
 - (1) Three (3) induction melt furnaces identified as EU29, EU30 and EU31, with EU29 and EU30 installed in 1985 and exhausting to a fume duct (identified as EU34) and stack 14, and EU31 installed in 1987 and exhausting to a fume duct (identified as EU35), with all emissions which are not exhausting to the fume ducts exhausted to stack 13, capacity: 2.25 tons per hour, each.
 - (2) Two (2) natural gas heated swing arm crucible furnaces, identified as EU32 and EU33, each installed in 1988 and exhausting to a fume duct (identified as EU36), with all emissions which are not exhausting to the fume duct exhausted to stack 13, capacity: 2.25 tons per hour, each.
- (f) Pouring, cooling, and shakeout operations, with a maximum capacity of 2.50 tons per hour, consisting of the following:
 - (1) One (1) Sinto casting line, consisting of mold making, pouring, cooling, and shakeout operations, exhausting to stack S20.
 - (2) One (1) Rollover casting line, consisting of mold making operations.

(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 2-6.1-5(a)(1)]

D.4.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the three (3) induction melt furnaces, identified as EU29, EU30, and EU31, shall not exceed 7.06 pounds per hour, each, when operating at a process weight rate of 2.25 tons per hour, each.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the two (2) swing arm crucible furnaces, identified as EU32 and EU33, shall not exceed 7.06 pounds per hour, each when operating at a process weight rate of 2.25 tons per hour, each.
- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) Sinto casting line, shall not exceed 7.58 pounds per hour, when operating at a process weight rate of 2.5 tons per hour.
- (d) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) Rollover casting line, shall not exceed 7.58 pounds per hour, when operating at a process weight rate of 2.5 tons per hour.

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

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

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

SECTION D.5 FACILITY OPERATION CONDITIONS

Emissions Unit Description: Cabinet Sand Blasting

- (m) One (1) enclosed cabinet sand blast used for maintenance, identified as Sand blast 1, exhausting inside through the sand handling baghouse and stack 7, capacity: 125 pounds of walnut shells and 500 pounds of core boxes per hour.
- (r) One (1) enclosed cabinet sand blast, identified as Sand blast 2, constructed in 2005, exhausting inside through a baghouse, capacity: 400 pounds of beads and 200 pounds of metal parts 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 2-6.1-5(a)(1)]

D.5.1 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the one (1) enclosed cabinet sand blast, identified as Sand blast 1, shall not exceed shall not exceed 1.88 pounds per hour, when operating at a process weight rate of 625 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from one (1) enclosed cabinet sand blast, identified as Sand blast 2, shall not exceed 1.83 pounds per hour, when operating at a process weight rate of 600 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

D.5.2 PSD Minor Source Limit [326 IAC 2-2]

The PM emissions from the two (2) cabinet sand blast units shall not exceed 0.429 pounds per hour, each. Compliance with this limit and the limits in Conditions D.1.2, D.2.2, and D.4.1 shall render the requirements of 326 IAC 2-2, PSD, not applicable to this source.

D.5.3 Preventive Maintenance Plan [326 IAC 1-6-3]

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

Compliance Determination Requirements

D.5.4 Particulate Control

- (a) In order to comply with Condition D.5.2, the baghouses must be in operation and control emissions from the two (2) cabinet sand blast units at all times when the two (2) cabinet sand blast units are in operation.
- (b) In the event that failure is observed in a multi-compartment control devices, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date

the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.5.5 Visible Emissions Notations

- (a) Visible emission notations of the sand blast stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee 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 response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.5.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the two (2) enclosed cabinet sand blasters, identified as Sand blast 1 and Sand blast 2, when venting to the atmosphere. A baghouse inspection shall be performed within three (3) months of redirecting vents to the atmosphere and every three (3) months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.5.7 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced.
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit.

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

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.5.8 Record Keeping Requirements

- (a) To document compliance with Condition D.5.5, the Permittee shall maintain records of visible emission notations of sand blast stack exhausts once per day, or when the visible emissions notations were not taken and the reason for it.
- (b) To document compliance with Condition D.5.6, the Permittee shall maintain records of the results of the inspections required under Condition D.5.6 and the dates the vents are redirected.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.6

FACILITY OPERATION CONDITIONS

Emissions Unit Description: Degreasing

- (o) Four (4) small parts washers, installed in October 1988, containing remote solvent reservoirs, using 570 gallons of degreasing agent and recovering 521 gallons of degreasing agent per year.

(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 2-6.1-5(a)(1)]

D.6.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

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

SECTION D.7

FACILITY CONDITIONS

Emissions Unit Description: Engine

- (s) One (1) natural gas-fired engine, identified as EU104, approved for construction in 2007, capacity: 281 horsepower.

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

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 326 IAC 2-5.1, WITH CONDITIONS LISTED BELOW.

Construction Conditions

General Construction Conditions

D.7.1 Permit No Defense

This permit 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.

D.7.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.7.3 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**MINOR SOURCE OPERATING PERMIT
CERTIFICATION**

Source Name: Elkhart Brass Manufacturing Co., Inc.
Source Address: 1302 West Beardsley Ave., Elkhart, IN 46515
Mailing Address: P.O. Box 1127, Elkhart, IN 46515
Permit No.: MSOP 039-22655-00072

**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 Data Section**

Quarterly Report Form

Source Name: Elkhart Brass Manufacturing Co., Inc.
 Location: 1302 West Beardsley Ave., Elkhart, IN 46515
 Mailing Address: P.O. Box 1127, Elkhart, IN 46515
 Permit No.: MSOP 039-22655-00072
 Facility: One (1) paint booth, identified as EU26
 Parameter: VOC Usage
 Limit: Less than 15 pounds per day

Months: _____ Year: _____

Day	Month 1: Daily Usage (lbs/day)	Month 2: Daily Usage (lbs/day)	Month 3: Daily Usage (lbs/day)	Day	Month 1: Daily Usage (lbs/day)	Month 2: Daily Usage (lbs/day)	Month 3: Daily Usage (lbs/day)
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16				TOTAL			

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

**Indiana Department of Environmental Management
Office of Air Quality
Compliance Data Section**

Quarterly Report Form

Source Name: Elkhart Brass Manufacturing Co., Inc.
Location: 1302 West Beardsley Ave., Elkhart, IN 46515
Mailing Address: P.O. Box 1127, Elkhart, IN 46515
Permit No.: MSOP 039-22655-00072
Facility: Grinding and finishing operations
Parameter: Castings throughput
Limit: Less than 15,330 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

Months: _____ Year: _____

Month	Castings Throughput (tons)	Castings Throughput (tons)	Castings Throughput (tons)
	This Month	Previous 11 Months	12-month Total

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

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

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Source Name:	Elkhart Brass Manufacturing Co., Inc.
Address:	1302 West Beardsley Ave.
City:	Elkhart, Indiana 46515
Phone #:	(219) 295-8330
MSOP #:	039-22655-00072

I hereby certify that Elkhart Brass Manufacturing Co., Inc. is

- still in operation.
- no longer in operation.

I hereby certify that Elkhart Brass Manufacturing Co., Inc. is

- in compliance with the requirements of MSOP 039-22655-00072.
- not in compliance with the requirements of MSOP 039-22655-00072.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-6865**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF >MALFUNCTION= AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Minor Source Operating Permit

Source Name:	Elkhart Brass Manufacturing Co., Inc.
Source Location:	1302 West Beardsley Ave., Elkhart, IN 46515
County:	Elkhart
Operation Permit No.:	MSOP 039-7635-00072
Operation Permit Issuance Date:	May 1, 2001
Permit Renewal No.:	MSOP 039-22655-00072
SIC Code:	3365 and 3366
Permit Reviewer:	CarrieAnn Paukowits

On December 20, 2006, the Office of Air Quality (OAQ) had a notice published in the Elkhart Truth, Elkhart, Indiana, stating that Elkhart Brass Manufacturing Co., Inc. had applied for a permit to continue to operate a stationary brass and aluminum fire fighting equipment manufacturing source. The notice also stated that OAQ proposed to issue a permit for this installation 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.

On January 17, 2007, Melanie Klamar of RMT, Inc., on behalf of Elkhart Brass Manufacturing Co., Inc., submitted a comment on the proposed permit. The comment and corresponding response is as follows (The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**):

Comment 1:

In Condition D.1.6, Baghouse Parametric Monitoring for Grinding and Finishing Operations, we request that permit Condition D.1.6(a) be changed to read "...When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 5.0 inches of water or a range established during the latest stack test..." to match the pressure drop range cited in Condition D.1.6 in the previous MSOP for Elkhart Brass.

Response 1:

The upper limit of the pressure drop range should be 5.0 inches of water as stated in the initial MSOP. However, IDEM, OAQ, has determined that a pressure drop range under 1.0 inch of water is only acceptable with supporting manufacturer specifications or performance test results. IDEM, OAQ, requested supporting information in this case, and the commenter responded with the following:

"Elkhart Brass does not have any manufacturer specs for 0.5. Based on their previous experience, they would be comfortable with a pressure drop range of 2.0 to 5.0 inches of water."

Therefore, the pressure drop range will be changed to 2.0 to 5.0 inches of water. Condition D.1.6 has been revised as follows:

D.1.6 Baghouse Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the grinding and finishing operations at least once per day when the grinding and finishing process exhausting to that baghouse is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of ~~4.0~~ **2.0** and ~~3.0~~ **5.0** inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this

permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

Upon further review, the OAQ has decided to make the following additional changes to the permit (The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**):

Change 1:

Daily inspections to verify the placement, integrity and particle loading of baghouses, was required for the two (2) enclosed cabinet sand blasters, identified as Sand blast 1 and Sand blast 2, in this proposed permit. Those daily inspections are not effective for monitoring whether the baghouses are operating properly. The Permittee cannot record the pressure drop range across the baghouses used for the two (2) enclosed cabinet sand blasters, identified as Sand blast 1 and Sand blast 2, because they are not equipped with gauges for measuring pressure. Therefore, Condition D.5.6, requiring daily inspections has been replaced with a condition requiring quarterly baghouse inspections, as follows:

~~D.5.6 Monitoring~~

~~Daily inspections shall be performed to verify the placement, integrity and particle loading of the baghouses. If a condition exists which should result in a response step, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~

D.5.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the two (2) enclosed cabinet sand blasters, identified as Sand blast 1 and Sand blast 2, when venting to the atmosphere. A baghouse inspection shall be performed within three (3) months of redirecting vents to the atmosphere and every three (3) months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.5.8 Record Keeping Requirements

- (a) To document compliance with Condition D.5.5, the Permittee shall maintain records of visible emission notations of sand blast stack exhausts once per day, or when the visible emissions notations were not taken and the reason for it.
- (b) To document compliance with Condition D.5.6, the Permittee shall maintain ~~a log daily inspections.~~ **records of the results of the inspections required under Condition D.5.6 and the dates the vents are redirected.**
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**Technical Support Document (TSD) for New Source Construction and
a Minor Source Operating Permit Renewal**

Source Background and Description

Source Name:	Elkhart Brass Manufacturing Co., Inc.
Source Location:	1302 West Beardsley Ave., Elkhart, IN 46515
County:	Elkhart
SIC Codes:	3365 and 3366
Operation Permit No.:	MSOP 039-7635-00072
Operation Permit Issuance Date:	May 1, 2001
Permit Renewal No.:	MSOP 039-22655-00072
Permit Reviewer:	CarrieAnn Paukowits

The Office of Air Quality (OAQ) has reviewed an application from Elkhart Brass Manufacturing Co., Inc. relating to the operation of a stationary brass and aluminum fire fighting equipment manufacturing source, and the construction of a new emission unit.

Permitted Emission Units and Pollution Control Equipment

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

- (a) Grinding and finishing operations with a capacity of 1.75 tons of castings per hour consisting of:
- (1) One (1) grinder, identified as EU1, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (2) One (1) belt grinder, identified as EU2, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (3) One (1) tumblast, identified as EU3, installed in 1979, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.
 - (4) One (1) cut off saw, identified as EU4, installed in 1993, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (5) One (1) belt grinder, identified as EU5, installed in 1989, equipped with a cyclone and a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (6) One (1) grinder, identified as EU6, installed in 1987, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (7) One (1) grinder, identified as EU7, installed in 1985, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (8) One (1) belt sander, identified as EU8, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 0.269 tons per hour.
 - (9) One (1) polisher, identified as EU11, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.

- (10) One (1) buffer, identified as EU12, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 5, capacity: 0.125 tons per hour.
- (11) One (1) surface grinder, identified as EU14, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (12) One (1) wire wheel, identified as EU15, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (13) One (1) buffer, identified as EU16, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.269 tons per hour.
- (14) One (1) buffer, identified as EU17, installed in 1990, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (15) One (1) polisher, identified as EU18, installed in 1992, equipped with a cyclone and a baghouse for control, exhausted to stack 6, capacity: 0.125 tons per hour.
- (16) One (1) surface grinder, identified as EU21, installed in 1978, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.
- (17) Two (2) tool grinders, identified as EU22 and EU23, EU22 installed in 1973 & EU23 installed in 1972, each equipped with a cyclone for control, each exhausted to stack 9, capacity: 0.269 tons per hour, each.
- (18) One (1) universal grinder, identified as EU24, installed in 1973, equipped with a cyclone for control, exhausted to stack 9, capacity: 0.269 tons per hour.
- (19) One (1) tumblast, identified as EU27, installed in 1990, equipped with a baghouse for control, exhausted to stack 1, capacity: 1.17 tons per hour.
- (b) Sand handling operations, equipped with a baghouse for control and exhausting inside via stack 7, with a maximum capacity of 20 tons of sand per hour, consisting of the following:
 - (1) One (1) sand mullor and sand screen, sand distribution belts, and sand bins, identified as EU19, installed in 1982.
 - (2) Two (2) bucket elevator systems for sand, identified as EU38, installed in 1995.
- (c) Core making operations with a maximum capacity of 0.34 tons of shell cores per hour and 0.25 tons of phenolic cured ester cores per hour, consisting of the following:

Two (2) core machines, identified as EU20 and EU101, installed in 1988, exhausted to stack 8.
- (d) One (1) paint booth, identified as EU26, installed in 1970, equipped with dry filters as overspray control, exhausted to stack 10, capacity: 7.9 brass fittings per hour.
- (e) Melting operations with a maximum capacity of 2.50 tons of brass or aluminum per hour, consisting of the following:

- (1) Three (3) induction melt furnaces, identified as EU29, EU30 and EU31, with EU29 and EU30 installed in 1985 and exhausting to a fume duct (identified as EU34) and stack 14, and EU31 installed in 1987 and exhausting to a fume duct (identified as EU35), with all emissions which are not exhausting to the fume ducts exhausted to stack 13, capacity: 2.25 tons per hour, each.
 - (2) Two (2) natural gas heated swing arm crucible furnaces, identified as EU32 and EU33, each installed in 1988 and exhausting to a fume duct (identified as EU36), with all emissions which are not exhausting to the fume duct exhausted to stack 13, capacity: 2.25 tons per hour, each.
- (f) Pouring, cooling, and shakeout operations, with a maximum capacity of 2.50 tons per hour, consisting of the following:
- (1) One (1) Sinto casting line, consisting of mold making, pouring, cooling, and shakeout operations, exhausting to stack S20.
 - (2) One (1) Rollover casting line, consisting of mold making operations.
- (g) Forty-eight (48) natural gas-fired unit heaters, total capacity: 8.93 million British thermal units per hour.
- (h) One (1) arc welder, identified as EU40, installed in 1969, exhausted to stack 20, capacity: 6 inches per minute and 0.018 pounds of weld wire per hour.
- (i) One (1) acetylene welder, identified as EU41, installed in 1969, exhausted to stack 20, capacity: 2 inches per minute and 0.018 pounds of weld wire per hour.
- (j) One (1) acetylene torch/braze/operation, identified as EU45, installed in 1969, exhausted to stack 24, capacity: 5 pieces per hour.
- (k) The following woodworking operations, with a total capacity of 0.19 pound per hour:
- (1) One (1) drill press
 - (2) One (1) band saw
 - (3) One (1) wood lathe
 - (4) One (1) wood planer
 - (5) One (1) disc sander for wood
 - (6) One (1) reciprocating sander for wood
 - (7) One (1) table saw for wood
- (l) The following wet metalworking and machining operations:
- (1) Six (6) CNC vertical mills
 - (2) One (1) CNC horizontal mill
 - (3) Ten (10) CNC lathes

- (4) Five (5) manual vertical mills
- (5) One (1) manual horizontal mill
- (6) Five (5) manual lathes
- (7) One (1) abrasive cutoff saw
- (9) One (1) surface grinder
- (10) Three (3) grinders
- (11) One (1) carbide grinder
- (12) Four (4) bench grinders
- (13) Fifty (50) hand grinders
- (14) Twenty-seven (27) drill presses
- (15) Three (3) band saws
- (16) Thirteen (13) belt sanders
- (17) One (1) punch press
- (18) Four (4) multi-station chuckers
- (m) One (1) enclosed cabinet sand blast used for maintenance, identified as Sand blast 1, exhausting inside through the sand handling baghouse and stack 7, capacity: 125 pounds of walnut shells and 500 pounds of core boxes per hour.
- (n) Five (5) lift trucks and one (1) skid loader operating on liquid propane gas, maximum capacity: 9 gallons of liquid propane gas per hour, total, including the truck constructed in 2005.
- (o) One (1) pipe threader used to apply threads to metal pieces, using a liquid lubricant.
- (p) Four (4) small parts washers, installed in October 1988, containing remote solvent reservoirs, using 570 gallons of degreasing agent and recovering 521 gallons of degreasing agent per year.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted emission units:

- (a) One (1) acetylene welder, identified as EU43, constructed in 2005, exhausting to stack 5, capacity: 0.018 pounds of weld wire per hour.
- (b) One (1) enclosed cabinet sand blast, identified as Sand blast 2, constructed in 2005, exhausting inside through a baghouse, capacity: 400 pounds of beads and 200 pounds of metal parts per hour.

- (c) One (1) liquid propane fired lift truck, constructed in 2005.
- (d) The following wet metalworking and machining operations:
 - (1) One (1) CNC horizontal mill
 - (2) Two (2) CNC lathes
 - (3) One (1) CNC horizontal band saw
 - (4) Twelve (12) belt sanders

One (1) of the two (2) bucket elevator systems, identified as EU38, was also not listed in the previous permit, and is, therefore, unpermitted. The emissions from the unpermitted equipment are less than that which would require a Minor Permit Revision pursuant to 326 IAC 2-6.1-6. Therefore, no enforcement referral has been submitted.

New Emission Units and Pollution Control Equipment

The application includes information relating to the prior approval for the construction and operation of the following new equipment:

One (1) natural gas-fired engine, identified as EU104, approved for construction in 2007, capacity: 281 horsepower.

Emission Units and Pollution Control Equipment Removed

The following facilities have been removed from the source and are not included in the proposed permit:

- (a) One (1) lead forging bench area, identified as EU39, installed in 1977, exhausted to stack 19, capacity: 10 hammer heads per month.
- (b) One (1) assembly cold cleaning degreasing unit, identified as EU42, installed in 1979, exhausted to stack 21, capacity: 80 gallons, degreasing 1 wire basket per hour and using 165 gallons of solvent per year.
- (c) One (1) Rollover casting line, consisting of mold making, pouring, cooling, and shakeout operations.
- (d) The following wet metalworking and machining operations:
 - (1) One (1) CNC vertical mill
 - (2) One (1) manual horizontal mill
 - (3) One (1) cold cutoff saw
 - (4) Six (6) bench grinders
 - (5) Five (5) drill presses
 - (6) One (1) band saw

- (7) One (1) punch press
 - (8) One (1) radial arm drill
 - (9) One (1) multi-station chucker
 - (10) One (1) shaper machine
- (e) One (1) internal combustion engine, identified as Process 011 and EU104, installed in 1990, using natural gas as fuel, exhausted to stack 84, capacity: 3.26 million British thermal units per hour.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) MSOP 039-7635-00072, issued on May 1, 2001;
- (b) Notice only change 039-17835-00072, issued on July 24, 2003; and
- (c) Notice only change 039-19624-00072, issued on July 27, 2004.

All terms and conditions from previous approvals were either incorporated as originally stated, revised or deleted by this MSOP. The following terms and conditions have been revised:

- (d) Condition D.3.2: The PM from the one (1) paint booth, known as EU26, shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

- (e) Condition D.5.1: The particulate matter (PM) from the lead forging bench, arc welder, acetylene welder, acetylene torch/braze operation, woodworking operations, and cabinet sandblast shall each not exceed 0.551 pounds per hour when operating at a process weight rate of less than 100 pounds per hour.

Reason revised: The 326 IAC 6-3 revisions that became effective on June 12, 2002, were approved into the State Implementation Plan on September 23, 2005. This rule replaces the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. The facilities at this source are subject to the requirements of the new version of the rule, and those requirements are incorporated into this permit. See "326 IAC 6-3-2" under the *State Rule Applicability - Individual Facilities* section of this document. The lead forging bench has been removed. The unrestricted potential emissions from the welding operations, one (1) paint booth, and woodworking operations, are less than 0.551 pounds per hour for each process. Therefore, pursuant to 326 IAC 6-3-1 (b)(14), those processes are exempt from the requirements of 326 IAC 6-3. Less than 3,400 inches per hour of stock 1-inch thickness or less is cut at the acetylene torch cutting. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the acetylene torch cutting is exempt from the requirements of 326 IAC 6-3. The process weight rate at the cabinet sand blast is greater than 100 pounds per hour. Therefore, emissions from the cabinet sand blast are limited

as indicated under "326 IAC 6-3-2" under the *State Rule Applicability - Individual Facilities* section of this document. Because the one (1) paint booth is exempt from the requirements of 326 IAC 6-3, the monitoring requirements for the dry filters are not included in the proposed permit.

Justification for the Revision

The proposed natural gas-fired engine, identified as EU104, would require a minor permit revision, pursuant to 326 IAC 2-6.1-6 (g)(4)(B)(ii), because the potential to emit NO_x is less than twenty-five (25) tons per year and equal or greater than ten (10) tons per year. At the request of the applicant, this modification has been combined with this renewal.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 7, 2006, with additional information received on June 22, 2006, October 10, 2006, and November 10, 2006.

Emission Calculations

See Appendix A of this document for detailed emission calculations (14 pages).

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential to Emit (tons/yr)
PM	203
PM ₁₀	86.0
SO ₂	0.244
VOC	30.2
CO	70.3
NO _x	17.6

HAPs	Potential to Emit (tons/yr)
Phosphorus	0.024
MIBK	0.075
Ethylbenzene	0.138
Chromium	0.125
Methanol	0.041
Toluene	0.077
Xylene	2.24
Cobalt	0.005
Nickel	0.118
Arsenic	0.023
Cadmium	0.011
Selenium	0.002
Glycol Ethers	0.155
Acrolein	0.019
Benzene	0.890
Formaldehyde	0.171
Hydrogen Cyanide	0.628
Naphthalene	0.006
Phenol	0.189
Hexane	0.074
Acetylaldehyde	0.026
Nickel, Dichlorobenzene, Manganese	< 0.001
Total	8.53

The potential to emit of PM₁₀ and VOC is greater than twenty-five (25) tons per year and less than one hundred (100) tons per year, the potential to emit of any single HAP is less than ten (10) tons per year, and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP will be issued.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM _{2.5}	attainment
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
8-Hour Ozone	nonattainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Elkhart County has been designated as nonattainment for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements of 326 IAC 2-3, Emission Offset. See the State Rule Applicability - Entire Source section of this document.
- (b) Elkhart County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability - Entire Source section of this document.
- (c) Elkhart County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section of this document.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 redesignating Delaware, Greene, Jackson, Vanderburgh, Vigo and Warrick Counties to attainment for the eight-hour ozone standard, redesignating Lake County to attainment for the sulfur dioxide standard, and revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
Since this type of operation is one of the 28 listed source categories under 326 IAC 2-2 or 2-3, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	97.4
PM ₁₀	86.0
SO ₂	0.244
VOC	27.7
CO	70.3
NO _x	17.6
Single HAP (Xylene)	2.24
Combination HAPs	8.53

- (a) This existing source, which is one of the twenty-eight (28) listed source categories, is **not** a major stationary source because no regulated pollutant is emitted at a rate of one-hundred (100) tons per year or greater.
- (b) The PM emissions are limited as indicated under 326 IAC 2-2, PSD, in the State Rule Applicability - Entire Source Section of this document, and the VOC emissions are limited as indicated under 326 IAC 8-2-9 in the State Rule Applicability - Individual Facilities section of this document. The total source limited potential to emit, based on these limitations, is summarized on page 13 of Appendix A of this document.

Proposed Modification

PTE from the proposed modification (based on 8,760 hours of operation per year at rated capacity including enforceable emission control and production limit where applicable):

Pollutant	PM (ton/yr)	PM ₁₀ (ton/yr)	SO ₂ (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO _x (ton/yr)
Proposed Modification (EU104)	0.0002	0.031	0.002	12.8	0.370	0.994
PSD or Offset Threshold Level	100	100	100	100	100	100

- (a) This modification to an existing minor stationary source is not major because the emission increase is less than the PSD major source levels of PM, PM₁₀, SO₂, and CO. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This modification to an existing minor stationary source is not major because the emission increase is less than the Emission Offset major source levels of VOC and NO_x. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 039-22655-00072, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one-hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) the combination of HAPs is less than twenty-five (25) tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) Pursuant to 326 IAC 12 and 40 CFR 60.130, Subpart M, the furnaces at this source are considered foundry furnaces and are not considered to be affected facilities because molten brass or bronze are cast into the shape of finished products. Therefore, the requirements of 40 CFR 60, subpart M, New Source Performance Standards for Secondary Brass and Bronze Production, are not included in the permit.
- (c) The four (4) parts washers at this source do not use halogenated solvents. Therefore, the requirements of 326 IAC 20-6 and 40 CFR 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning, are not included in the permit.
- (d) This source is not a major source of HAPs. Therefore, the requirements of 326 IAC 20-80 and 40 CFR 63, Subpart MMMM, National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products, are not included in the permit.
- (e) This source is an area source of HAPs, which melts only clean charge and internal scrap. It does not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decorating lines. Therefore, the requirements of 326 IAC 20-70 and 40 CFR 63, Subpart RRR, National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, are not included in the permit.
- (f) This source is not a major source of HAPs. Therefore, the requirements of 326 IAC 20-82 and 40 CFR 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, are not included in the permit.
- (g) This source is not a major source of HAPs. Therefore, the requirements of 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, are not included in the permit.
- (h) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability – Entire Source

326 IAC 2-6 (Emission Reporting)

This source is not located in Lake or Porter County, does not emit five (5) tons per year or more of lead and does not require a Part 70 Operating Permit. Therefore, the requirements of 326 IAC 2-6 do not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in the permit:

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

326 IAC 2-3 (Emission Offset)

The unrestricted potential VOC emissions and the unrestricted potential NO_x emissions are each less than one-hundred (100) tons per year. Therefore, this source is a minor source pursuant to 326 IAC 2-3, Emission Offset.

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

The unrestricted potential PM emissions before controls is greater than one hundred (100) tons per year at this source, which is one (1) of the twenty-eight (28) listed source categories. However, the potential to emit PM is limited as follows:

- (a) Pursuant to MSOP 039-7635-00072, issued on May 1, 2001, the PM emissions after controls from the grinding and finishing operations shall be limited to 3.94 pounds of PM per ton of metal throughput, and the metal throughput shall be less than 15,330 tons of castings per twelve (12) consecutive month period, with compliance determined at the end of each month. This emission rate is achieved by maintaining an average overall capture and control efficiency of no less than seventy-seven percent (77%) at all equipment controlling the grinding and finishing operations, and result in a potential to emit of no more than 6.90 pounds per hour and 30.2 tons per year of PM from the total of all grinding and cleaning operations. The baghouses and cyclones shall be in operation at all times when each grinding and machining process is in operation in order to comply with this limitation. The 77% control efficiency is less than the manufacturer's control efficiency for each unit. Therefore, testing is still not required.
- (b) Pursuant to MSOP 039-7635-00072, issued on May 1, 2001, the potential to emit PM at the sand handling operations, identified as EU19, shall not exceed 1.08 pounds per hour, equivalent to 4.73 tons per year. This limitation is equal to the uncontrolled potential emissions of the sand handling, based on the alternate emission factor, which was based on the amount of particulate collected and the control and capture efficiency of the dust collector. Testing will be required to document compliance with this limitation and the emission factor.

Those limits, limited the existing source emissions to less than one hundred (100) tons per year of PM, prior to the addition of the one (1) cabinet sand blast constructed in 2005. Upon construction of the one (1) cabinet sand blast constructed in 2005, identified as Sand blast 2, which did not require approval, the source became a major source pursuant to 326 IAC 2-2, PSD. In order to be a minor source, pursuant to 326 IAC 2-2, the applicant must comply with the following limitations:

The potential to emit PM from the two (2) cabinet sand blast units shall not exceed 0.429 pounds per hour, each, equivalent to 1.88 tons per year, each. This is equivalent to operating the baghouses at control efficiencies of approximately 66% for Sand blast 1 and 50% for Sand blast 2. Since this is much less than the actual expected control efficiency of 99%, no testing is required to document compliance with this limit. The baghouses must be in operation and control emissions from the two (2) cabinet sand blast units at all times when the two (2) cabinet sand blast units are in operation.

This will result in a potential to emit of 97.4 tons per year of PM (see page 13 of Appendix A of this document) and make this source a minor source pursuant to 326 IAC 2-2, PSD.

326 IAC 2-4.1-1 (New source toxics control)

The unrestricted potential HAP emissions from this source are less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 do not apply.

State Rule Applicability – Individual Facilities

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

- (a) Less than 3,400 inches per hour of stock 1-inch thickness or less is cut at the acetylene torch cutting. Therefore, pursuant to 326 IAC 6-3-1(b)(10), the acetylene torch cutting is exempt from the requirements of 326 IAC 6-3.
- (b) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) enclosed cabinet sand blast, identified as Sand blast 1, shall not exceed 1.88 pounds per hour, when operating at a process weight rate of 625 pounds per hour. The potential to emit before controls is 1.25 pounds per hour. Therefore, the one (1) enclosed cabinet sand blast, identified as Sand blast 1, can comply with this rule.
- (c) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) enclosed cabinet sand blast, identified as Sand blast 2, shall not exceed 1.83 pounds per hour, when operating at a process weight rate of 600 pounds per hour. The potential to emit before controls is 0.857 pounds per hour. Therefore, the one (1) enclosed cabinet sand blast, identified as Sand blast 2, can comply with this rule.
- (d) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) grinder, identified as EU1, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) grinder, identified as EU1, at all times when the grinder is in operation.
- (e) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) belt grinder, identified as EU2, shall not exceed 1.70 pounds per hour when operating at a

process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU2, at all times when the grinder is in operation.

- (f) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) tumblast, identified as EU3, shall not exceed 4.55 pounds per hour when operating at a process weight rate of 1.17 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU3, at all times when the tumblast is in operation.
- (g) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) cutoff saw, identified as EU4, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) cutoff saw, identified as EU4, at all times when the cutoff saw is in operation.
- (h) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) belt grinder, identified as EU5, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU5, at all times when the belt grinder is in operation.
- (i) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) grinder, identified as EU6, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) grinder, identified as EU6, at all times when the grinder is in operation.
- (j) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) grinder, identified as EU7, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) grinder, identified as EU7, at all times when the grinder is in operation.
- (k) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) belt sander, identified as EU8, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) belt sander, identified as EU8, at all times when the belt sander is in operation.
- (l) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) polisher, identified as EU11, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU11, at all times when the polisher is in operation.

- (m) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) buffer, identified as EU12, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU12, at all times when the buffer is in operation.
- (n) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) surface grinder, identified as EU14, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) surface grinder, identified as EU14, at all times when the surface grinder is in operation.
- (o) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) wire wheel, identified as EU15, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) wire wheel, identified as EU15, at all times when the wire wheel is in operation.
- (p) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) buffer, identified as EU16, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU16, at all times when the buffer is in operation.
- (q) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) buffer, identified as EU17, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU17, at all times when the buffer is in operation.
- (r) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) polisher, identified as EU18, shall not exceed 1.02 pounds per hour when operating at a process weight rate of 0.125 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU18, at all times when the polisher is in operation.
- (s) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) surface grinder, identified as EU21, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone must be in operation and control emissions from the one (1) surface grinder, identified as EU21, at all times when the surface grinder is in operation.
- (t) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the two (2) tool grinders, identified as EU22 and EU23, shall not exceed 1.70 pounds per hour, each, when operating at a process weight rate of 0.269 tons per hour, each. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing

operations. Therefore, the cyclones must be in operation and control emissions from the two (2) tool grinders, identified as EU22 and EU23, at all times when the tool grinders are in operation.

- (u) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) universal grinder, identified as EU24, shall not exceed 1.70 pounds per hour when operating at a process weight rate of 0.269 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the cyclone must be in operation and control emissions from the one (1) universal grinder, identified as EU24, at all times when the universal grinder is in operation.
- (v) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) tumblast, identified as EU27, shall not exceed 4.55 pounds per hour when operating at a process weight rate of 1.17 tons per hour. The potential to emit after controls is 1.30 pounds per hour from the total of all grinding and finishing operations. Therefore, the baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU27, at all times when the tumblast is in operation.
- (w) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the sand handling operations shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20 tons per hour. The potential to emit before controls is 1.18 pounds per hour from the total of all sand handling operations. Therefore, the sand handling operations can comply with this limit.
- (x) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the three (3) induction melt furnaces, identified as EU29, EU30, and EU31, shall not exceed 7.06 pounds per hour, each, when operating at a process weight rate of 2.25 tons per hour, each. The potential to emit is 6.55 pounds per hour from each of the three (3) induction melt furnaces (2.25 tons per hour x 2.91 pounds per ton = 6.55 pounds per hour). Therefore, the three (3) induction melt furnaces can comply with this rule.
- (y) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the two (2) swing arm crucible furnaces, identified as EU32 and EU33, shall not exceed 7.06 pounds per hour, each when operating at a process weight rate of 2.25 tons per hour, each. The potential to emit is 4.75 pounds per hour from the total of the two (2) swing arm crucible furnaces. Therefore, the two (2) swing arm crucible furnaces can comply with this rule.
- (z) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) Sinto casting line, shall not exceed 7.58 pounds per hour, when operating at a process weight rate of 2.5 tons per hour. The potential to emit is 5.78 pounds per hour from the one (1) Sinto casting line. Therefore, the one (1) Sinto casting line can comply with this rule.
- (aa) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the one (1) Rollover casting line, shall not exceed 7.58 pounds per hour, when operating at a process weight rate of 2.5 tons per hour. The potential to emit is 5.78 pounds per hour from the one (1) Rollover casting line. Therefore, the one (1) Rollover casting line can comply with this rule.
- (bb) The unrestricted potential emissions from the forty-eight (48) natural gas-fired heaters, welding operations, one (1) paint booth, woodworking operations, wet metal and machining operations, six (6) lift trucks, and one (1) natural gas fired engine are less than 0.551 pounds per hour for each process. Therefore, pursuant to 326 IAC 6-3-1 (b) (14), these processes are exempt from the requirements of 326 IAC 6-3.

The limitations in (b) through (aa), are based upon the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

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

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

- (a) The potential SO₂ emissions from each of the two (2) natural gas-fired swing arm crucible furnaces, identified as EU32 and EU33, are less than ten (10) pounds per hour and twenty-five (25) tons per year (2.25 tons metal/hr x 2.5 lbs/ton = 5.63 lbs/hr; 5.63 lbs/hr x 8,760 hrs/yr x 1 ton/2,000 lbs = 24.66 tons per year) at a maximum process weight rate of 2.25 tons per hour at each furnace. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.
- (b) The potential SO₂ emissions from each of the three (3) induction melt furnaces, forty-eight (48) natural gas-fired unit heaters, one (1) natural gas-fired engine, and six (6) lift trucks and one (1) skid loader, are each less than ten (10) pounds per hour and twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 7-1.1 are not applicable.

326 IAC 8-1-6 (New facilities; General reduction requirements)

The facilities at this source each have potential VOC emissions less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

Pursuant to MSOP 039-7635-00062, issued on May 1, 2001, the volatile organic compound (VOC) usage at one (1) paint booth, identified as EU 26, shall be limited to less than fifteen (15) pounds per day. Therefore, the requirements of 326 IAC 8-2-9 are not applicable.

326 IAC 8-3-2 (Organic Solvent Degreasing Operations)

The four (4) parts washers are cold cleaner degreasers with remote solvent reservoirs. Pursuant to 326 IAC 8-3-1(a) (2), since the facility was a new operation after January 1, 1980, the facility must comply with the following conditions outlined in 326 IAC 8-3-2:

- (a) Equip the cleaner with a cover.
- (b) Equip the cleaner with a facility for draining cleaned parts.
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner.
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
- (e) Provide a permanent, conspicuous label summarizing the operating requirements.
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This source existed prior to October 7, 1974, therefore, the requirements of 326 IAC 8-6 are not applicable.

326 IAC 9-1 (Carbon Monoxide Emission Limits)

This source is not a petroleum refinery, ferrous metal smelter, or refuse incinerator, therefore, there are no limitations in 326 IAC 9-1-2 and the requirements of 326 IAC 9-1 are not applicable.

326 IAC 10-5 (Nitrogen Oxide Reduction Program for Internal Combustion Engines (ICE))

The proposed internal combustion engine at this source is not a large NO_x SIP Call engine. Therefore, the requirements of 326 IAC 10-5 are not applicable.

326 IAC 11-1 (Existing Foundries)

This source does not have a cupola. Therefore, the particulate emissions limitations in 326 IAC 11-1-2 are not applicable.

Compliance Requirements

Permits issued under 326 IAC 2-6.1 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-6.1-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also 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.

Grinding and Finishing

The following compliance determination requirements are proposed for the grinding and finishing operations:

- (a) Pursuant to MSOP 039-7635-00072, issued on May 1, 2001, and in order to comply with the PM emission limitations, the Permittee shall comply with the following:
 - (1) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU1, at all times when the grinder is in operation.
 - (2) The baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU2, at all times when the grinder is in operation.
 - (3) The baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU3, at all times when the tumblast is in operation.

- (4) The baghouse must be in operation and control emissions from the one (1) cutoff saw, identified as EU4, at all times when the cutoff saw is in operation.
- (5) The cyclone and baghouse must be in operation and control emissions from the one (1) belt grinder, identified as EU5, at all times when the belt grinder is in operation.
- (6) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU6, at all times when the grinder is in operation.
- (7) The baghouse must be in operation and control emissions from the one (1) grinder, identified as EU7, at all times when the grinder is in operation.
- (8) The baghouse must be in operation and control emissions from the one (1) belt sander, identified as EU8, at all times when the belt sander is in operation.
- (9) The cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU11, at all times when the polisher is in operation.
- (10) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU12, at all times when the buffer is in operation.
- (11) The cyclone and baghouse must be in operation and control emissions from the one (1) surface grinder, identified as EU14, at all times when the surface grinder is in operation.
- (12) The cyclone and baghouse must be in operation and control emissions from the one (1) wire wheel, identified as EU15, at all times when the wire wheel is in operation.
- (13) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU16, at all times when the buffer is in operation.
- (14) The cyclone and baghouse must be in operation and control emissions from the one (1) buffer, identified as EU17, at all times when the buffer is in operation.
- (15) The cyclone and baghouse must be in operation and control emissions from the one (1) polisher, identified as EU18, at all times when the polisher is in operation.
- (16) The cyclone must be in operation and control emissions from the one (1) surface grinder, identified as EU21, at all times when the surface grinder is in operation.
- (17) The cyclones must be in operation and control emissions from the two (2) tool grinders, identified as EU22 and EU23, at all times when the tool grinders are in operation.
- (18) The cyclone must be in operation and control emissions from the one (1) universal grinder, identified as EU24, at all times when the universal grinder is in operation.
- (19) The baghouse must be in operation and control emissions from the one (1) tumblast, identified as EU27, at all times when the tumblast is in operation.

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

The following compliance monitoring requirements are proposed for the grinding and finishing operations:

- (a) Visible emission notations of the grinding and finishing stack exhausts (stacks 1, 5, 6 and 9) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal. 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. 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. 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across the baghouses used in conjunction with the grinding and finishing operations at least once per day when the grinding and finishing process exhausting to that baghouse is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 3.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit. The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.
- (c) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Bag failure can be indicated by a significant drop in the baghouse=s pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, or dust traces.
- (d) For a cyclone controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. For a cyclone controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit-has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit

These conditions are required for the grinding and finishing operations in order to ensure that the baghouses and cyclones are operating properly at all times. The baghouses and cyclones must operate properly in order for the grinding and finishing operations to comply with 326 IAC 6-3-2, Particulate Emission Limitations for Manufacturing Processes, and to make the source a minor source pursuant to 326 IAC 2-2, PSD.

Painting

The following compliance determination requirements are proposed for the painting operation:

Compliance with the VOC usage limitation that makes 326 IAC 8-2-9 not applicable shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

This condition is required for the painting operations in order to ensure compliance with the VOC usage limitation that makes 326 IAC 8-2-9 not applicable.

Cabinet Sand Blasting

The following compliance determination requirements are proposed for the cabinet sand blast units:

- (a) In order to comply with the PM limitations, the baghouses must be in operation and control emissions from the two (2) cabinet sand blast units at all times when the two (2) cabinet sand blast units are in operation.
- (b) In the event that failure is observed in a multi-compartment control devices, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

The following compliance monitoring requirements are proposed for the cabinet sand blast operations:

- (a) Visible emission notations of the sand blast stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. 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. 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. 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. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) Daily inspections shall be performed to verify the placement, integrity and particle loading of the baghouses. If a condition exists which should result in a response step, the

Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (c) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, or dust traces.

These conditions are required for the sand blast operations in order to ensure that the baghouses are operating properly at all times. The baghouses must operate properly to in order for the sand blast operations to comply with the limitations that make the source a minor source pursuant to 326 IAC 2-2, PSD.

Conclusion

The construction and operation of this stationary brass and aluminum fire fighting equipment manufacturing source shall be subject to the conditions of the **New Source Construction and Minor Source Operating Permit 039-22655-00072**.

**Appendix A: Emission Calculations
Foundry Emissions**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowitz
Application Date: February 7, 2006

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (lbs/hr)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (lbs/hr)	Eac (ton/yr)
Castings Pouring, Cooling, and Shakeout	2.5	PM	2.31	5.78	25.3			5.78	25.3
Source of Criteria		PM-10	2.31	5.78	25.3			5.78	25.3
PM, PM10, and lead emission factors developed by stack testing at the existing Hunter Line in November 1993.		SO2	0.020	0.050	0.219			0.050	0.219
Stack test emission factors are the highest test results plus a safety factor of 2.		NOx	0.010	0.025	0.110			0.025	0.110
VOC emission factors are from AP-42 emissions from gray iron foundries (SCC 3-04-003-20 and SCC 3-04-003-31).		VOC	1.34	3.35	14.7			3.35	14.7
NOx and SO2 emission factors are from AP-42 emissions from gray iron foundries (SCC 3-04-003-20) and FIRE version 6.01.		CO	6.02	15.1	65.9			15.1	65.9
CO emission factors are from Scott, W.D, et al 1978, Chemical Emissions from Foundry Molds, Transactions of the American Foundrymen's Society, Vo. 86, pp. 203-208.		chromium	1.60E-03	0.004	1.75E-02			0.004	1.75E-02
		cobalt	1.30E-04	0.000	1.42E-03			0.000	1.42E-03
		nickel	2.81E-03	0.007	3.08E-02			0.007	3.08E-02
		arsenic	5.50E-04	0.001	6.02E-03			0.001	6.02E-03
		cadmium	2.50E-04	0.001	2.74E-03			0.001	2.74E-03
		selenium	4.00E-05	0.000	4.38E-04			0.000	4.38E-04
		Lead	2.21E-01	0.553	2.42E+00			0.553	2.42E+00

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (lbs/hr)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (lbs/hr)	Eac (ton/yr)
Grinding and Finishing	1.75	PM	17.0	29.8	130		99.0%	1.30	1.30
Source of Criteria		PM-10	1.70	2.98	13.0		99.0%	0.13	0.13031
Pollutant Factors:		SO2	0.000	0.000	0.000			0.00	0.00000
FIRE 6.01		NOx	0.000	0.000	0.000			0.00	0.00000
SCC# 3-04-003-40		VOC	0.000	0.000	0.000			0.00	0.00000
AP-42 Ch. 12.10		CO	0.000	0.000	0.000			0.00	0.00000
Fifth edition 1995		chromium	0.006	0.011	0.050		99.0%	0.00	0.00050
		cobalt	0.001	0.001	0.004		99.0%	0.00	0.00004
		nickel	0.011	0.020	0.087		99.0%	0.00	0.00087
		arsenic	0.002	0.004	0.017		99.0%	0.00	0.00017
		cadmium	0.001	0.002	0.008		99.0%	0.00	0.00008
		selenium	0.000	0.000	0.001		99.0%	0.00	0.00001
		Lead	0.005	0.008	0.034		99.0%	0.00	0.00034

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (lbs/hr)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (lbs/hr)	Eac (ton/yr)
Sand Handling	20	PM	0.054	1.08	4.73	Fabric Filter	99.0%	0.011	0.047
Source of Criteria		PM-10	0.054	1.08	4.73				4.73
Pollutant Factors:									
Alternate Emission factor determined during review for MSOP 039-7635-00072, issued 5/1/01.									

Ef = Emission factor
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc
1ton = 2000 lbs

The alternate emission factor for sand handling was determined by the following:

Dust Captured in Dust Collector (lbs/week)	Actual Sand Throughput (tons/week)	PM Control Efficiency	PM Generated (lbs/week)	Emission Factor (lbs PM /ton of Sand)
20	375	99.0%	20.2	0.054

**Appendix A: Emission Calculations
Secondary Metal Production - Aluminum**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

SCC# 3-04-001-03
Smelting Furnace/Induction

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR				
Aluminum	5000	2000	2.5				
	PM * lbs/ton Produced 2.91	PM10 * lbs/ton Produced 2.91	SOx lbs/ton Produced 0	NOx lbs/ton Produced 0	VOC * lbs/ton Produced 0	CO lbs/tons Produced --	Pb lbs/tons Produced 0.058
Potential Emissions lbs/hr	7.28	7.28	0.0	0.0	0.0	--	0.145
Potential Emissions lbs/day	175	175	0.0	0.0	0.0	--	3.48
Potential Emissions tons/year	31.9	31.9	0.0	0.0	0.0	--	0.635

*Emission factors based on November 1993 Stack Tests approved in MSOP 039-7635-00072, issued on May 1, 2001

SCC# 3-04-001-02
Smelting Furnace, Crucible

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR				
Aluminum	5000	2000	2.5				
	PM ** lbs/ton metal produced 1.90	PM10 ** lbs/ton metal produced 1.70	SOx lbs/ton metal produced 2.50	NOx lbs/ton metal produced 1.70	VOC lbs/ton metal produced 2.50	CO lbs/tons metal produced --	Pb lbs/tons metal produced --
Potential Emissions lbs/hr	4.75	4.25	6.25	4.25	6.25	--	--
Potential Emissions lbs/day	114	102	150	102	150	--	--
Potential Emissions tons/year	20.8	18.6	27.4	18.6	27.4	--	--

Note: Emission factor is from FIRE version 6.01.
Emission factors which are not denoted by a "*" are from older versions of FIRE and were not included in FIRE version 6.01 for various reasons.

**Appendix A: Emission Calculations
Core Making**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

Isocure Core Making Process

Process	Date of Construction	Capacity (tons cores/hr)	Maximum Resin Content (%)	VOC Emission Factor from Resin Evaporation (lb/ton cores)	Max Catalyst Usage (lb Catalyst/ton cores)	Potential VOC Emissions from resin evap (tons/yr)	Potential VOC Emissions from Catalyst usage (tons/yr)	Total Potential VOC Emissions (tons/yr)
Shell Cores	1988	0.34	2.0%	2	0.005	2.98	0.01	2.99
Phenolic Cured Ester Cores	1988	0.25	1.7%	1.7	0.0043	1.86	0.00	1.87
Total							0.01	4.85

For Isocure cold box core making, the OCMA study shows an emission factor of 0.65 lb/ton of cores for VOC emissions from resin evaporation, based on 1% resin usage. As an example, calculations for a source using a maximum of 1% resin would use an emission factor of 1 lb/ton to provide a conservative estimate of uncontrolled emissions so that no stack test would be necessary to verify emissions. For a source with a maximum resin content of 1.2%, an emission factor of 1.2 lb/ton might be used to provide a conservative estimate so that no stack test would be necessary to verify emissions. If the OCMA study emission factor of 0.65 lb/ton of cores is used, then a stack test should be required to verify the emissions.

Appendix A: Emission Calculations
HAP Emission Calculations for Pouring-Cooling-Shakeout Binder Systems

Company Name: Elkhart Brass Manufacturing Co., Inc.
Plant Location: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Permit Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

Annual Usage of Index Material
 (lbs/yr)

119136
87600

Binder System

shell
phenolic cured ester

Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index

Pollutant	Phenolic Nobake (Resin)	Phenolic Urethane (Resin)	Phenolic Hotbox (Resin)	Green Sand (Seacoal)	Core Oil (Core Oil)	Shell (Resin)	Low Nitrogen Furan (Resin)	Med Nitrogen Furan TSA Catalyst (Resin)	Furan Hotbox (Resin)	Alkyd Isocyanate (Resin & Isocyanate)	Sodium Silicate & Ester (Sugar & Ester)	Pollutant Emissions (lbs/yr)	Pollutant Emissions (tons/yr)
Acrolein	0.000005	0.000031	0.000009	0.000002	0.000077	0.000047	0.000028	0.000016	0.000013	0.000088	0.000028	6.037	0.003
Benzene	0.011209	0.005351	0.001002	0.000611	0.002344	0.006667	0.000648	0.004534	0.000537	0.005336	0.001410	1776.188	0.888
Formaldehyde	0.000010	0.000022	0.000006	0.000004	0.000096	0.000035	0.000267	0.000065	0.000009	0.000106	0.000169	5.046	0.003
Hydrogen Cyanide	0.000029	0.001053	0.001184	0.000118	0.000086	0.010526	0.000368	0.000607	0.003474	0.000175	0.000179	1256.566	0.628
M-Xylene	0.000097	0.000439	0.000121	0.000021	0.000239	0.000585	0.002227	0.000243	0.000032	0.002522	0.000094	78.192	0.039
Napthalene	0.000049	0.000022	0.000030	0.000021	0.000048	0.000058	0.000040	0.000040	0.000032	0.000037	0.000005	11.202	0.006
O-Xylene	0.000049	0.000132	0.000030	0.000021	0.000287	0.000117	0.000729	0.000040	0.000032	0.003838	0.000094	18.231	0.009
Phenol	0.000975	0.003904	0.000203	0.000131	0.000057	0.002456	0.000024	0.000101	0.000016	0.000110	0.000273	378.008	0.189
Toluene	0.000634	0.000833	0.000182	0.000063	0.000478	0.002807	0.000210	0.008826	0.000032	0.001535	0.000282	389.953	0.195
Total Aromatic Amines	0.000049	0.000351	0.001275	0.000021	0.000096	0.002339	0.000081	0.000364	0.003032	0.000037	0.000094	282.952	0.141
Total C2 to C5 Aldehydes	0.003070	0.000219	0.000273	0.000063	0.000766	0.000585	0.000243	0.017004	0.000158	0.002156	0.001316	338.627	0.169
Total HAPs	0.016174	0.012355	0.004318	0.001076	0.004574	0.026222	0.004777	0.031842	0.007364	0.015939	0.003943	4540.827	2.270

Total State Potential Emissions

METHODOLOGY

HAPS emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
VOC, Particulate and HAPs
From Surface Coating Operations**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowitz
Application Date: February 7, 2006

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
EU-26																
SV-10																
Red Urethane	8.59	56.0%	0.0%	56.0%	0.0%	34.71%	0.01670	7.900	4.81	4.81	0.63	15.23	2.78	0.55	13.86	75%
Primer	7.77	82.1%	0.0%	82.1%	0.0%	11.30%	0.00310	7.900	6.38	6.38	0.16	3.75	0.68	0.04	56.45	75%
Xylene	7.25	100.0%	0.0%	100.0%	0.0%	0.00%	0.00437	7.900	7.25	7.25	0.25	6.00	1.10	0.00	n/a	75%
Acid Thinner	7.11	96.4%	0.0%	96.4%	0.0%	2.00%	0.00240	7.900	6.85	6.85	0.13	3.12	0.57	0.01	342.70	75%
Urethane Hardner	8.13	55.0%	0.0%	55.0%	0.0%	37.31%	0.00120	7.900	4.47	4.47	0.04	1.02	0.19	0.04	11.98	75%

PM Control Efficiency: 98.00%
Total Uncontrolled 1.21 29.1 5.31 0.627
Total Controlled 1.21 29.1 5.31 0.013

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

HAPS

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight% Phosphorus	Weight % MIBK	Weight % Ethyl Benzene	Weight % Chromium	Weight % Methanol	Weight % Toluene	Weight % Xylene	Phosphorus Emissions (tons/yr)	MIBK (tons/yr)	Ethyl Benzene Emissions (ton/yr)	Chromium Emissions (ton/yr)	Methanol Emissions (ton/yr)	Toluene Emissions (ton/yr)	Xylene Emissions (ton/yr)	Total HAPs (tons/yr)
EU-26																		
SV-10																		
Red Urethane	8.59	0.01670	7.900	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.943	0.943
Primer	7.77	0.00310	7.900	0.00%	9.00%	0.00%	7.00%	4.00%	8.00%	7.00%	0.000	0.075	0.000	0.058	0.033	0.067	0.058	0.217
Xylene	7.25	0.00437	7.900	0.00%	0.00%	12.60%	0.00%	0.00%	0.80%	86.60%	0.000	0.000	0.138	0.000	0.000	0.009	0.948	1.095
Acid Thinner	7.11	0.00240	7.900	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.00%	0.024	0.000	0.000	0.000	0.000	0.000	0.124	0.124
Urethane Hardener	8.13	0.00120	7.900	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	34.00%	0.000	0.000	0.000	0.000	0.000	0.000	0.115	0.115

Total: 0.024 0.075 0.138 0.058 0.033 0.075 2.19 2.49

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100	5.50	84.0
				**see below		

*PM emission factor is filterable PM only. PM-10 emission factor is filterable and condensable PM-10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Equipment	Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission in tons/yr					
			PM*	PM10*	SO2	NOx	VOC	CO
48 Natural Gas-fired unit heaters	8.93	78.2	0.074	0.297	0.023	3.91	0.215	3.29
Total	8.93	78.2	0.074	0.297	0.023	3.91	0.215	3.29

HAPs - Organics

Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	0.0021	0.0012	0.0750	1.8000	0.0034
Potential Emission in tons/yr	0.0001	0.0000	0.003	0.070	0.0001

HAPs - Metals

Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel	Total HAPs
	0.0005	0.0011	0.0014	0.0004	0.0021	
Potential Emission in tons/yr	0.00002	0.00004	0.0001	0.00001	0.0001	0.074

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

(SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
Welding and Thermal Cutting**

**Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING												
Submerged Arc	0	0		0.036	0.011			0.0000	0.0000	0.000	0	0.000
Metal Inert Gas (MIG)(carbon steel)	0	0		0.0055	0.0005			0.0000	0.0000	0.000	0	0.000
Stick (E7018 electrode)	1	0.018		0.0211	0.0009			0.0004	0.0000	0.000	0	0.00002
Tungsten Inert Gas (TIG)(carbon steel)	0	0		0.0055	0.0005			0.0000	0.0000	0.000	0	0.000
Oxyacetylene(carbon steel)	2	0.018		0.0055	0.0005			0.0002	0.0000	0.000	0	0.00002
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	1	1	0.00037	0.1622	0.0005	0.0001	0.0003	0.000004	0.000000	0.000000	0.000000	0.000000002
EMISSION TOTALS												
Potential Emissions lbs/hr								0.001	0.00003	0.00	0.00	0.00003
Potential Emissions lbs/day								0.014	0.001	0.00	0.00	0.001
Potential Emissions tons/year								0.003	0.0001	0.00	0.00	0.0001

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

**Appendix A: Emission Calculations
Woodworking**

**Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006**

Process	Maximum Throughput lbs/hr	PM Emission Factor (lb/ton)	PM10 Emission Factor (lb/ton)	PM Emissions (lbs/hr)	PM10 Emissions (lbs/hr)	PM Emissions (tons/yr)	PM10 Emissions (tons/yr)
Woodworking	0.190	2000	2000	0.190	0.190	0.832	0.832
Total						0.832	0.832

Methodology

Emission factor is equal to the maximum capacity of the woodworking operations for conservatism.

PM/PM10 Emissions (lbs/hr) = Maximum Throughput (lbs/hr) x 1 ton/2,000 lbs x Emission Factor (lbs/ton)

PM/PM10 Emissions (tons/yr) = Emissions (lbs/hr) x 8,760 hrs/yr x 1 lb/2,000 tons

Appendix A: Emission Calculations
LPG-Propane

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

Six (6) lift trucks and one (1) skid loader

Potential Throughput
 kgals/year

SO2 Emission factor = 0.10 x S
 S = Sulfur Content =

0.005 grains/100ft³

78.84

Emission Factor in lb/kgal	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	0.6	0.6	0.001 (0.10S)	19.0	0.5 **TOC value	3.2
Potential Emission in tons/yr	0.024	0.024	0.00002	0.749	0.020	0.126

*PM emission factor is filterable PM only. PM10 emission factor is assumed to be the same as PM based on a footnote in Table 1.5-1, therefore PM10 is filterable only as well.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

(Source - AP-42 (Supplement B 10/96) page 1.5-1)

Emission Factors are from AP42 (Supplement B 10/96), Table 1.5-1 (SCC #1-02-010-02)

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

**Appendix A: Emission Calculations
Material/Solvent Usage**

**Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Date: February 7, 2006**

Emission Unit	Material	Density (lbs/gal)	Usage (gals/yr)	Weight % VOC	VOC Emissions (tons/yr)	Weight % HAP (glycol ethers)	HAP Emissions (tons/yr)
Four (4) small parts washers	ZEP Formula 50	8.35	570	100.00%	2.380	5.00%	0.119
Machining	Meisol 3030	8.09	6950	0.10%	0.028	0.10%	0.028
Pipe Threader	Meisol 3030	8.09	1840	0.10%	0.007	0.10%	0.007
				Total	2.415		0.155

VOC Emissions (tons/yr)= Density (lbs/gal) * Usage (gal/yr) * Weight % VOC

HAP Emissions (tons/yr)= Density (lbs/gal) * Usage (gal/yr) * Weight % HAP

**Appendix A: Emission Calculations
Sand Blast Operations**

**Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Date: February 7, 2006**

Unit ID	Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PM Emission Rate before Controls (lb/hr)	PM Emission Rate before Controls (tons/yr)	PM Emission Rate after Controls (lb/hr)	PM Emission Rate after Controls (tons/yr)
Sand blast 2	99.0%	0.0100	100	0.857	3.75	0.009	0.038

Methodology

Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)

Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Sand blast 1

Flow Rate (FR) (lb/hr) = **125.000** per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM/ lb abrasive) From Table 1 =

FR = Flow Rate (lb/hr) =

w = fraction of time of wet blasting =

N = number of nozzles =

0.010
125.000
0 %
1

PM and PM10

Uncontrolled Emissions =	1.25
	5.48
Controlled Emissions =	0.013
	0.055

Methodology

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs

E = EF x FR x (1-w/200) x N

w should be entered in as a whole number (if w is 50%, enter 50)

**Appendix A: Emission Calculations
Natural Gas-fired Reciprocating Engines**

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowitz
Application Date: February 7, 2006

Four stroke Lean Burn Engines
Heat Input Capacity
MM Btu/hr

0.716

Emission Factor in lb/MMBtu	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
	7.71E-05	9.99E-03	5.88E-04	4.08E+00	1.18E-01	3.17E-01
Potential Emission in tons/yr	0.0002	0.031	0.002	12.8	0.370	0.994

HAP	Emission Factor Four stroke lean burn (lb/MMBtu)	Potential to Emit (tons/yr)
1,1,2,2-Tetrachloroethane	4.00E-05	1.25E-04
1,1,2-Trichloroethane	3.18E-05	9.97E-05
1,3-Butadiene	2.67E-04	8.37E-04
1,3-Dichloropropene	2.64E-05	8.27E-05
2,2,4-Trimethylpentane	2.50E-04	7.84E-04
Acetaldehyde	8.36E-03	2.62E-02
Acrolein	5.14E-03	1.61E-02
Benzene	4.40E-04	1.38E-03
Biphenyl	2.12E-04	6.64E-04
Carbon Tetrachloride	3.67E-05	1.15E-04
Chlorobenzene	3.04E-05	9.53E-05
Chloroethane	1.87E-06	5.86E-06
Chloroform	2.85E-05	8.93E-05
Ethylbenzene	3.97E-05	1.24E-04
Ethylene Dibromide	4.43E-05	1.39E-04
Formaldehyde	5.28E-02	1.65E-01
Methanol	2.50E-03	7.84E-03
Methylene Chloride	2.00E-05	6.27E-05
n-Hexane	1.11E-03	3.48E-03
Naphthalene	7.44E-05	2.33E-04
Phenol	2.40E-05	7.52E-05
Styrene	2.36E-05	7.40E-05
Toluene	4.08E-04	1.28E-03
Vinyl Chloride	1.49E-05	4.67E-05
Xylene	1.84E-04	5.77E-04
Total HAPs:		0.226

Methodology

Emission Factors are from AP 42 Tables 3.2-1, 3.2-2 and 3.2-3, revised July 2000
Emission (tons/yr) = [Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu)] * 8760 hr/yr / (2,000 lb/ton)

Appendix A: Emissions Calculations
Summary of all Emissions

Company Name: Elkhart Brass Manufacturing Co., Inc.
 Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
 Permit Number: MSOP 039-22655-00072
 Reviewer: CarrieAnn Paukowitz
 Application Date: February 7, 2006

Uncontrolled Emissions

Process	PM	PM10	CO	NOx	SO2	VOC	Pb	Phosphorus	MIBK	Ethyl Benzene	Chromium	Methanol	Toluene
Grinding and Finishing	130	13.0	0.000	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000
Sand Handling	4.73	4.73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Core Making	0.000	0.000	0.000	0.000	0.000	4.85	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Surface Coating	0.627	0.627	0.000	0.000	0.000	5.31	0.000	0.024	0.075	0.138	0.058	0.033	0.075
Melting	31.9	31.9	0.000	0.000	0.000	0.000	0.635	0.000	0.000	0.000	0.000	0.000	0.000
Pouring, Casting, Cooling and Shakeout	25.3	25.3	65.9	0.110	0.219	14.7	2.42	0.000	0.000	0.000	0.050	0.000	0.000
Heaters	0.074	0.297	3.29	3.91	0.023	0.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welders	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Woodworking	0.832	0.832	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wet metal working	0.000	0.000	0.000	0.000	0.000	2.415	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sand blasters	9.23	9.23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lift trucks	0.024	0.024	0.126	0.749	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pipe Threader	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Parts washers	0.000	0.000	0.000	0.000	0.000	2.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Engine	0.0002	0.031	0.994	12.8	0.002	0.370	0.000	0.000	0.000	0.0001	0.000	0.000	0.000
Totals	203	86.0	70.3	17.6	0.244	30.2	3.09	0.024	0.075	0.138	0.108	0.033	0.075

Process	Xylene	Cobalt	Nickel	Arsenic	Cadmium	Selenium	Glycol Ethers	Acrolein	Benzene	Form- aldehyde	Hydrogen Cyanide	Naph-thalene	Phenol	Hexane	Acetyl- aldehyde	Nickel, Dichloro- benzene, Manganese	HAPs
Grinding and Finishing	0.000	0.004	0.087	0.017	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.201
Sand Handling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Core Making	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Surface Coating	2.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		2.49
Melting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.635
Pouring, Casting, Cooling and Shakeout	0.048	0.001	0.031	0.006	0.003	0.000	0.000	0.003	0.888	0.003	0.628	0.006	0.189	0.000	0.000		4.75
Heaters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.070	0.000		0.074
Welders	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Woodworking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Wet metal working	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.028
Sand blasters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Lift trucks	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Pipe Threader	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.007
Parts washers	0.000	0.000	0.000	0.000	0.000	0.000	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.119
Engine	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.001	0.165	0.000	0.000	0.000	0.003	0.026		0.226
Totals	2.24	0.005	0.118	0.023	0.011	0.002	0.155	0.019	0.890	0.171	0.628	0.006	0.189	0.074	0.026	< 0.001 each	8.53

Appendix A: Emissions Calculations
Summary of all Emissions

Company Name: Elkhart Brass Manufacturing Co., Inc.
Address City IN Zip: 1302 West Beardsley Ave. Elkhart, IN 46515
Permit Number: MSOP 039-22655-00072
Reviewer: CarrieAnn Paukowits
Application Date: February 7, 2006

Limited Potential to Emit

Process	PM	PM10	CO	NOx	SO2	VOC	Pb	Phosphorus	MIBK	Ethyl Benzene	Chromium	Methanol	Toluene
Grinding and Finishing	30.2	13.0	0.000	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000
Sand Handling	4.73	4.73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Core Making	0.000	0.000	0.000	0.000	0.000	4.85	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Surface Coating	0.627	0.627	0.000	0.000	0.000	2.74	0.000	0.024	0.075	0.138	0.058	0.033	0.075
Melting	31.9	31.9	0.000	0.000	0.000	0.000	0.635	0.000	0.000	0.000	0.000	0.000	0.000
Pouring, Casting, Cooling and Shakeout	25.3	25.3	65.9	0.110	0.219	14.7	2.42	0.000	0.000	0.000	0.050	0.000	0.000
Heaters	0.074	0.297	3.29	3.91	0.023	0.215	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welders	0.003	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Woodworking	0.832	0.832	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wet metal working	0.000	0.000	0.000	0.000	0.000	2.415	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sand blasters	3.76	9.23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lift trucks	0.024	0.024	0.126	0.749	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pipe Threader	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Parts washers	0.000	0.000	0.000	0.000	0.000	2.380	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Engine	0.0002	0.031	0.994	12.8	0.002	0.370	0.000	0.000	0.000	0.0001	0.000	0.000	0.000
Totals	97.4	86.0	70.3	17.6	0.244	27.7	3.09	0.024	0.075	0.138	0.108	0.033	0.075

Process	Xylene	Cobalt	Nickel	Arsenic	Cadmium	Selenium	Glycol Ethers	Acrolein	Benzene	Form- aldehyde	Hydrogen Cyanide	Naph-thalene	Phenol	Hexane	Acetyl- aldehyde	Nickel, Dichloro- benzene, Manganese	HAPs
Grinding and Finishing	0.000	0.004	0.087	0.017	0.008	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.201
Sand Handling	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Core Making	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Surface Coating	2.189	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		2.49
Melting	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.635
Pouring, Casting, Cooling and Shakeout	0.048	0.001	0.031	0.006	0.003	0.000	0.000	0.003	0.888	0.003	0.628	0.006	0.189	0.000	0.000		4.75
Heaters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.070	0.000		0.074
Welders	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Woodworking	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Wet metal working	0.000	0.000	0.000	0.000	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.028
Sand blasters	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Lift trucks	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Pipe Threader	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.007
Parts washers	0.000	0.000	0.000	0.000	0.000	0.000	0.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.119
Engine	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.016	0.001	0.165	0.000	0.000	0.000	0.003	0.026		0.226
Totals	2.24	0.005	0.118	0.023	0.011	0.002	0.155	0.019	0.890	0.171	0.628	0.006	0.189	0.074	0.026	< 0.001 each	8.53

The limited potential to emit is the same as the unrestricted potential to emit for all pollutants other than PM and VOC. PM emissions from the sand handling and sand blasters are limited by the permit, as are VOC emissions from the surface coating.