



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

March 30, 2004

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Amcast Automotive - Fremont / MSOP151-15211-00018

FROM: Paul Dubenetzky
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 9/16/03



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MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Amcast Automotive - Fremont
706 East Depot Street
Fremont, Indiana 46737**

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

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

Operation Permit No.: MSOP 151-15211-00018	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: March 30, 2004 Expiration Date: March 30, 2009

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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 stationary aluminum die casting source producing alloy wheels.

Authorized Individual: David Thomson
Source Address: 706 East Depot Street, Fremont, IN 46737
Mailing Address: P.O. Box 705, Fremont, IN 46737
General Source Phone: (260) 495-5602
SIC Code: 3363
County Location: Steuben
Source Location Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD or Emission Offset Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One natural gas fired reverberatory furnace, installed in 1983 and identified as #2, with a maximum melt capacity of 1 ton of aluminum per hour and using up to 30 pounds solid flux per week, and with a maximum heat input rate of 4 million British thermal units per hour (MMBtu/hr), exhausting to one (1) stack identified as Rev2. Reverberatory furnaces #2 and #3 share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.
- (b) One natural gas fired reverberatory furnace, installed in 1983 and identified as #3, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 60 pounds solid flux per week, and a with maximum heat input rate of 6 MMBtu/hr, exhausting to one (1) stack identified as Rev3. Reverberatory furnaces #2 and #3 share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.
- (c) One (1) natural gas fired reverberatory furnace with wet well, installed in 1983 and identified as #4, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 140 pounds solid flux per week in the furnace and up to 192 pounds solid flux per day in the wet well, with maximum heat input rate of 6 MMBtu/hr, exhausting to one (1) stack identified as Rev4. Reverberatory furnace #4 is equipped with an attached natural gas fired filter furnace with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#4. Reverberatory furnace #4 uses a natural gas fired afterburner for control of its wet well, with a heat input rating of 1.5 MMBtu/hr, exhausting to one (1) stack identified as WW#4.
- (d) One (1) pouring/casting operation with a maximum capacity of 4 tons of aluminum per hour, including twenty eight (28) diecast machines with electric holding furnaces;

- (e) One (1) steel shot blast unit, with maximum throughput rate of 12 pounds per hour, controlled by one (1) baghouse, identified as SB2, exhausting to stack SB3;
- (f) One (1) conveyORIZED liquid paint line, identified as LP#1, used for partial painting of aluminum wheels, with nine spray guns and a maximum throughput rate of 240 wheels per hour and maximum paint usage of 1.0 fluid ounce per wheel, using dry paper filters for particulate matter overspray control, and exhausting to stack LPB;
- (g) Six (6) natural gas fired Heat Treat Furnaces, each with a maximum heat input rate of 3.25 MMBtu/hr, exhausting to stacks HT1, HT2, HT3, HT4, HT5 and HT6, respectively;
- (h) Three (3) natural gas fired Age Ovens, each with a maximum heat input rate of 1.5 MMBtu/hr;
- (i) Two (2) powder coating booths, each with a maximum throughput rate of 378 parts per hour each, each totally enclosed and using cartridge filters to recirculate powder for reuse in each booth;
- (j) One (1) natural gas fired hot water heater for the locker room, with a maximum heat input rate of 0.19 MMBtu/hr and exhausting to stack HWO;
- (k) One (1) natural gas fired hot water heater for the tool room, with a maximum heat input rate of 0.375 MMBtu/hr exhausting to stack TRHW;
- (l) Two (2) natural gas fired office boilers, installed after September 21, 1983, each with a maximum heat input rate of 0.252 MMBtu/hr each and exhausting to stack OFH;
- (m) One (1) natural gas fired hot water heater for the casting area, with a maximum heat input rate of 0.034 MMBtu/hr and exhausting to stack COHW;
- (n) One (1) natural gas fired riser tube oven, with a maximum heat input rate of 1.2 MMBtu/hr and exhausting to stack RTO;
- (o) One (1) natural gas fired paint area air makeup heater unit, with a maximum heat input rate of 2.2 MMBtu/hr;
- (p) One (1) natural gas fired LPL air make up heater unit, with a maximum heat input rate of 2.0 MMBtu/hr;
- (q) One (1) natural gas fired die preparation oven, with a maximum heat input rate of 0.5 MMBtu/hr and exhausting to stack DPO;
- (r) One (1) natural gas fired pretreat boiler, installed after September 21, 1983, with a maximum heat input rate of 6.6 MMBtu/hr;
- (s) Two (2) natural gas fired quench car preheat ovens, with maximum heat input rates of 2.0 and 2.5 MMBtu/hr;
- (t) One (1) natural gas fired hook burn-off oven, with a maximum heat input rate of 2.0 MMBtu/hr and exhausting to stack HBOO;
- (u) One (1) natural gas fired heated air sock, with a maximum heat input rate of 2.5 MMBtu/hr;
- (v) Two (2) natural gas fired dry off ovens, with maximum heat input rates of 2 MMBtu/hr each and exhausting to stacks DOO-1 and DOO-2;

- (w) Two (2) natural gas fired color cure back ovens, with maximum heat input rates of 2 MMBtu/hr each and exhausting to stacks BO-1 and BO-2; and
- (x) One (1) natural gas fired aluminum chip centrifuge and drying system, identified as the Pre Melt Thermo Fuge system, processing a maximum of 3,000 pounds of aluminum chips per hour, with a maximum heat input rate of 0.5 MMBtu per hour.

SECTION B GENERAL CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to operate 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.

B.2 Definitions

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

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

B.4 Permit Term and Renewal [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5]

This permit 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 of this permit do not affect the expiration date.

The Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date. If a timely and sufficient permit application for a renewal has been made, this permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.5 Modification to Permit [326 IAC 2]

All requirements and conditions of this operating permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted 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) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and 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, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) 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.7 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) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.
- (c) 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 PMP does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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.8 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) Permit revisions are governed by the requirements of 326 IAC 2-6.1-6.
- (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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1.
- (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)]
- (d) No permit amendment or modification is required for the addition, operation or removal of a non-road engine, as defined in 40 CFR 89.2.

B.9 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 this title or the conditions of this permit or any operating permit revisions;
- (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 processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (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.10 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

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

B.11 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, I/M & Billing Section), to determine the appropriate permit fee.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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 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 non-overlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

C.5 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, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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 2-7-1(34).

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

- (g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements

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

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date.

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual date.
- (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 the 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.7 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

C.8 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.9 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.10 Compliance Response Plan - Preparation and Implementation

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
 - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.
 - (4) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
- (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.

- (3) An automatic measurement was taken when the process was not operating.
- (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

Record Keeping and Reporting Requirements

C.11 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.12 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 when operation begins.

C.13 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, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (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, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

One (1) conveyORIZED liquid paint line, identified as LP#1, used for partial painting of aluminum wheels, with nine spray guns and a maximum throughput rate of 240 wheels per hour and maximum paint usage of 1.0 fluid ounce per wheel, using dry paper filters for particulate matter overspray control, and exhausting to stack LPB;

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

Emission Limitations and Standards

D.1.1 Volatile Organic Compounds (VOC) Limitations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator shall not allow the discharge from LP#1 into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator, for forced warm air dried coatings.

D.1.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of LP#1 during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

D.1.3 Minor Source Operating Permit Limit [326 IAC 2-6.1]

The Permittee shall limit the average coating usage at LP#1 used for partial painting of aluminum wheels to less than or equal to 1.0 fluid ounce of coating per aluminum wheel, based on a 12 month averaging period. Violation of this condition would constitute a violation of 326 IAC 2-6.1 (MSOP).

D.1.4 Hazardous Air Pollutants (HAP) [326 IAC 2-4.1]

Any change or modification which would increase the potential to emit single HAP and total HAP from the one (1) conveyORIZED liquid paint line to ten (10) and twenty-five (25) tons per year or more, respectively, shall obtain prior approval from IDEM, OAQ and shall be subject to the requirements of 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and 326 IAC 2-7 (Title V).

D.1.5 Particulate [326 IAC 6-3-2(d)]

- (a) Particulate from the one (1) surface coating booth LP#1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.
- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:
 - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
 - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

- (c) If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.1.6 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 this facility and any control devices.

Compliance Determination Requirements

D.1.7 Particulate Control

In order to comply with condition D.1.5, the dry filters for particulate control shall be in operation and control emissions from LP#1 at all times that the liquid paint booth is in operation.

D.1.8 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in condition D.1.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume-weighted average of coatings on a daily basis. This volume-weighted average shall be determined by the following equation:

$$A = [\sum (c) \times U] / \sum U$$

where: A = daily volume-weighted average in pounds VOC per gallon less water as applied;
C = VOC content of the individual coating in pounds VOC per gallon less water as applied; and
U = usage rate of the individual coating in gallons per day.

Daily volume-weighted average calculations are required only when noncompliant coatings are averaged with compliant coatings or if thinners or other additives are added to the paint. Daily volume-weighted average calculations are not required when using compliant coatings with no thinner or additives.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (1) The VOC content of each coating material and solvent used less water.
 - (2) The amount of coating material and solvent used 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 solvent.
 - (3) The volume-weighted average VOC content of the coatings used for each day;
 - (4) The daily cleanup solvent usage;

- (5) The total VOC usage for each day.
- (b) To document compliance with Condition D.1.3, the Permittee shall maintain records in accordance with (1) through (3) below.
- (1) The amount of liquid coating and solvent used for each month.
 - (2) The number of aluminum wheels coated in LP#1.
 - (3) The calculated 12-month average ounces of liquid paint per wheel, each month.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One natural gas fired reverberatory furnace, installed in 1983 and identified as #2, with a maximum melt capacity of 1 ton of aluminum per hour and using up to 30 pounds solid flux per week, and with a maximum heat input rate of 4 million British thermal units per hour (MMBtu/hr), exhausting to one (1) stack identified as Rev2. Reverberatory furnaces #2 and #3 share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.
- (b) One natural gas fired reverberatory furnace, installed in 1983 and identified as #3, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 60 pounds solid flux per week, and a with maximum heat input rate of 6 MMBtu/hr, exhausting to one (1) stack identified as Rev3. Reverberatory furnaces #2 and #3 share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.
- (c) One (1) natural gas fired reverberatory furnace with wet well, installed in 1983 and identified as #4, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 140 pounds solid flux per week in the furnace and up to 192 pounds solid flux per day in the wet well, with maximum heat input rate of 6 MMBtu/hr, exhausting to one (1) stack identified as Rev4. Reverberatory furnace #4 is equipped with an attached natural gas fired filter furnace with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#4. Reverberatory furnace #4 uses a natural gas fired afterburner for control of its wet well, with a heat input rating of 1.5 MMBtu/hr, exhausting to one (1) stack identified as WW#4.
- (d) One (1) pouring/casting operation with a maximum capacity of 4 tons of aluminum per hour, including twenty eight (28) diecast machines with electric holding furnaces.
- (e) One (1) steel shot blast unit, with maximum throughput rate of 12 pounds per hour, controlled by one (1) baghouse, identified as SB2, exhausting to stack SB3.
- (f) One (1) natural gas fired aluminum chip centrifuge and drying system, identified as the Pre Melt Thermo Fuge system, processing a maximum of 3,000 pounds of aluminum chips per hour, with a maximum heat input rate of 0.5 MMBtu 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

D.2.1 Secondary Aluminum Production Facility NESHAP [40 CFR Part 63, Subpart RRR]

- (a) This source is not subject to the requirements of 40 CFR 63, Subpart RRR, *National Emission Standards for Hazardous Air Pollutants, for Secondary Aluminum Production*. On January 22, 2004, U.S. EPA, Region V issued an applicability determination to Amcast Automotive. Pursuant to this determination, EPA has concluded that the Pre Melt Thermo Fuge chip dryer is not considered a *thermal chip dryer* or *scrap delacquering kiln* under 40 CFR Part 63, Subpart RRR. Further, EPA has determined the source is not subject to the Secondary Aluminum Production NESHAP regulations, 40 CFR Part 63, Subpart RRR. This is based on the fact that the plant only processes clean charge and internal scrap and does not operate a *sweat furnace, thermal chip dryer, or scrap dryer/delacquering kiln/decoating kiln* as defined by 40 CFR §63.1503. The regulation at 40 CFR §63.1503 excludes aluminum die casting facilities from the definition of a *secondary aluminum production facility* if the only materials they melt are clean charge, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns.

- (b) Any change or modification to this source which may alter this determination, including the melting of materials other than clean charge, customer returns, or internal scrap as defined at 40 CFR Part 63, Subpart RRR, shall require prior approval from the Office of Air Quality (OAQ) before such change can occur.

D.2.2 Particulate [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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:

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

Emission Unit/Activity	Process Weight Rate (tons/hr)	Allowable Particulate Emission Rate (326 IAC 6-3-2) (lb/hr)
Reverberatory Furnace #2	1.0	4.10
Reverberatory Furnace #3	1.5	5.38
Reverberatory Furnace #4	1.5	5.38
pouring/casting operation	4.0	10.38
Pre Melt Thermo Fuge aluminum chip centrifuge and drying system	1.5	5.38

- (b) 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. The one (1) steel shot blast unit, with a maximum throughput rate of 12 pounds per hour, shall be subject to this 0.551 pounds per hour limit.

Compliance Determination Requirements

D.2.3 Particulate Matter (PM)

In order to comply with D.2.2(b), the baghouse for PM control shall be in operation and control emissions from the steel shot blast unit at all times that the facility is in operation.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Two (2) natural gas fired office boilers, installed after September 21, 1983, each with a maximum heat input rate of 0.252 MMBtu/hr each and exhausting to stack OFH.
- (b) One (1) natural gas fired pretreat boiler, installed after September 21, 1983, with a maximum heat input rate of 6.6 MMBtu/hr.
- (c) One (1) natural gas fired hook burn-off oven, with a maximum heat input rate of 2.0 MMBtu/hr and exhausting to stack HBOO.

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

Emission Limitations and Standards

D.3.1 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), PM emissions from the two (2) office boilers and the preheat boiler, each as a facility installed after September 21, 1983, shall each be limited to 0.6 pounds per MMBtu heat input.

D.3.2 Incinerators [40 CFR 52 Subpart P]

Pursuant to 40 CFR 52 Subpart P, the natural gas fired hook burn-off oven shall:

- (a) consist of primary and secondary chambers or the equivalent;
- (b) be equipped with a primary burner unless burning wood products;
- (c) comply with 326 IAC 5-1 and 326 IAC 2;
- (d) be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) not emit particulate matter in excess of three-tenths (0.3) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) not create a nuisance or a fire hazard.

The operation of this natural gas fired hook burn-off oven shall be terminated immediately upon noncompliance with any of these requirements.

D.3.3 Incinerators [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2 (Incinerators: Requirements), the natural gas fired hook burn-off oven shall comply with the following:

- (a) The incinerator shall comply with the following requirements:
 - (1) Consist of primary and secondary chambers or the equivalent.
 - (2) Be equipped with a primary burner unless burning only wood products.
 - (3) Comply with 326 IAC 5-1 and 326 IAC 2.
 - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in paragraph (c) of this condition.
 - (5) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.
 - (6) If any of the requirements of (1) through (5) are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) An incinerator is exempt from paragraph (a)(5) of this condition if subject to a more stringent particulate matter emission limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.
- (c) A Permittee developing an operation and maintenance plan pursuant to paragraph (a)(4) of this condition must comply with the following:
 - (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in paragraph (a)(5) of this condition and include the following:
 - (A) Procedures for receiving, handling, and charging waste.
 - (B) Procedures for incinerator startup and shutdown.
 - (C) Procedures for responding to a malfunction.
 - (D) Procedures for maintaining proper combustion air supply levels.
 - (E) Procedures for operating the incinerator and associated air pollution control systems.
 - (F) Procedures for handling ash.
 - (G) A list of wastes that can be burned in the incinerator.

- (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
 - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
 - (4) The Permittee shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
- (d) The Permittee shall make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

**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).

Company Name:	Amcast Automotive - Fremont
Address:	706 E. Depot Street
City:	Fremont
Phone #:	(260) 495-5602
MSOP #:	151-15211-00018

I hereby certify that Amcast Automotive - Fremont is still in operation.
 no longer in operation.

I hereby certify that Amcast Automotive - Fremont is in compliance with the requirements of MSOP 151-15211-00018.
 not in compliance with the requirements of MSOP 151-15211-00018.

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 - 317 233-5967**

**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 PERM 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: ____ / ____ / 19____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____ / ____ / 19____ 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 (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name:	Amcast Automotive - Fremont
Source Location:	706 East Depot Street, Fremont, IN 46737
County:	Steuben
SIC Code:	3363
Operation Permit No.:	MSOP 151-15211-00018
Permit Reviewer:	MH/EVP

On February 13, 2004, the Office of Air Quality (OAQ) had a notice published in the Herald Republican, Angola, Indiana, stating that Amcast Automotive - Fremont had applied for a Minor Source Operating Permit (MSOP) to operate an aluminum die casting source producing alloy wheels. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On March 2, 2004, OAQ received comments from Amcast Automotive on the proposed MSOP. The summary of the comments and corresponding responses is shown below. Changes made to the permit as a result of the comments are shown in bold and deleted permit language is shown with a line through it. Any permit changes affecting the permit's Table of Contents are also revised without replication herein.

Comment 1:

A.1 (General Information) and MSOP Annual Notification:

The area code should be changed from 574 to 260.

Response to Comment 1:

Section A.1 is revised to correct the area code, as shown below. The same change is made to the Annual Notification form, without form replication herein.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary aluminum die casting source producing alloy wheels.

Authorized Individual:	David Thomson
Source Address:	706 East Depot Street, Fremont, IN 46737
Mailing Address:	P.O. Box 705, Fremont, IN 46737
General Source Phone:	(574) (260) 495-5602
SIC Code:	3363
County Location:	Steuben
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD or Emission Offset Rules; Minor Source, Section 112 of the Clean Air Act

Comment 2:

A.2 (Emissions Units and Pollution Control Equipment Summary):

The following six (6) comments were made relating to this section of the permit:

- (a) A.2(a) and (b) - Reverberatory furnaces #2 and #3 share one (1) filter furnace with a stack identified as FF#1.
- (b) A.2(c) - Reverberatory furnace #4 has a wet well with an afterburner exhausting through Stack WW#4.
- (c) A.2(d) - There are 28 diecasting machines with electric holding furnaces.
- (d) A.2(h) - This should list three (3) natural gas fired Age Ovens.
- (e) A.2(j) - This should show the one (1) natural gas fired hot water heater is for the locker room.
- (f) A.2(l) - This should show the two (2) natural gas fired office furnaces as boilers.

Response to Comment 2:

Section A.2 is revised to correct the equipment listing as requested. The same changes are made to the equipment description boxes in Sections D.2 and D.3 as necessary, without replication herein. Additionally, pages 1, 7 and 8 of TSD Appendix A (emission calculations) are revised to include the third 1.5 MMBtu per hour natural gas fired Age Oven omitted from the draft permit. The emissions from this facility are minimal and do not affect the status of, nor any determinations made for, this source, except for the allowable particulate limit of Condition D.3.1. Draft Condition D.3.1 reflected only the pre-heat boiler and is revised herein to now include the two (2) natural gas fired office boilers. The following applicability discussion is replicated from the TSD and is modified herein to include the three (3) units concurrently installed after September 21, 1983:

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

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), PM emissions from the two (2) office boilers and the preheat boiler, each as a facility installed after September 21, 1983, shall be limited to 0.6 pounds per MMBtu heat input determined as the **lesser** of the value Pt computed with the following formula,

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

where: Pt = pounds of PM emitted per MMBtu heat input (lb/MMBtu)
 Q = total source operating capacity rating (MMBtu/hr)

or six-tenths (0.6) pounds per MMBtu, for values of Q less than ten (10) MMBtu per hour.

Pt for this indirect heating facility is computed as follows:

$$Pt = 1.09 / (7.104)^{0.26}, \text{ where } Q \text{ reflects the preheat boiler as the total of indirect heating units at this source}$$

= 0.65 lb/MMBtu; however, pursuant to 326 IAC 6-2-4(a), Pt shall not exceed 0.6 lb/MMBtu for Q less than 10 MMBtu.

Potential PM emissions for the preheat boiler:
= 0.05 tons per year, based on page 7 of 8 of Appendix A
= (0.05 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 6.6 MMBtu)
= 0.0017 lbs PM / MMBtu (will comply)

Potential PM emissions for each of the office boilers:
= 0.002 tons per year, based on page 7 of 8 of Appendix A
= (0.002 tons PM/yr) * (2,000 lbs/ton) * (1 yr / 8,760 hrs) * (1 hr / 0.252 MMBtu)
= 0.0018 lbs PM / MMBtu, each (will comply).

While revising the pages of Appendix A as described above, a minor computational error was also discovered on page 5 of Appendix A. Therefore, page 5 of Appendix A is corrected. This correction does not affect the status of, nor determinations made for, this source.

The permit conditions are revised in response to this comment as follows:

A.2 Emissions Units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One natural gas fired reverberatory furnace, installed in 1983 and identified as #2, with a maximum melt capacity of 1 ton of aluminum per hour and using up to 30 pounds solid flux per week, and with a maximum heat input rate of 4 million British thermal units per hour (MMBtu/hr), exhausting to one (1) stack identified as Rev2. **Reverberatory furnaces #2 and #3 share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.**
- (b) One natural gas fired reverberatory furnace, installed in 1983 and identified as #3, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 60 pounds solid flux per week, and a with maximum heat input rate of 6 MMBtu/hr, **exhausting to one (1) stack identified as Rev3.** Reverberatory furnaces **#2 and #3** ~~is equipped with an attached~~ **share one (1) natural gas fired filter furnace, with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, exhausting to one (1) stack identified as FF#1.** ~~Reverberatory furnace #3 exhausts to one (1) stack identified as Rev3.~~
- (c) One (1) natural gas fired reverberatory furnace with wet well, installed in 1983 and identified as #4, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 140 pounds solid flux per week in the furnace and up to 192 pounds solid flux per day in the wet well, ~~and a~~ with maximum heat input rate of 6 MMBtu/hr, **exhausting to one (1) stack identified as Rev4.** Reverberatory furnace #4 is equipped with an attached natural gas fired filter furnace with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week, **exhausting to one (1) stack identified as FF#4.** Reverberatory furnace #4 uses a natural gas fired afterburner for control of its wet well, with a heat input rating of 1.5 MMBtu/hr, **exhausting to one (1) stack identified as WW#4.** ~~Reverberatory furnace #4 exhausts to one (1) stack identified as Rev4.~~
- (d) One (1) pouring/casting operation with a maximum capacity of 4 tons of aluminum per hour, including twenty ~~six~~**eight (28)** diecast machines with electric holding furnaces;
- (h) ~~Two (2)~~ **Three (3)** natural gas fired Age Ovens, each with a maximum heat input rate of 1.5 MMBtu/hr;
- (j) One (1) natural gas fired hot water heater for the ~~office~~ **locker room**, with a maximum heat input rate of 0.19 MMBtu/hr and exhausting to stack HWO;

- (l) Two (2) natural gas fired office furnaces ~~furnaces~~ **boilers, installed after September 21, 1983,** each with a maximum heat input rate of 0.252 MMBtu/hr each and exhausting to stack OFH;

D.3.1 Particulate [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), PM emissions from **the two (2) office boilers and** the preheat boiler, **each** as a facility installed after September 21, 1983, shall **each** be limited to 0.6 pounds per MMBtu heat input.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name:	Amcast Automotive - Fremont
Source Location:	706 East Depot Street, Fremont, IN 46737
County:	Steuben
SIC Code:	3363
Operation Permit No.:	MSOP 151-15211-00018
Permit Reviewer:	NH/EVP

The Office of Air Quality (OAQ) has reviewed an application from Amcast Automotive - Fremont relating to the operation of an aluminum die casting source producing alloy wheels.

History

On October 18, 1999, Amcast Automotive - Fremont submitted an application to IDEM. On January 12, 2001, the source was granted FESOP 151-11461-00018. No comments were made by the source during the public notice period of this FESOP. Also, the source did not appeal their permit once it was approved.

On June 8, 2001, Amcast Automotive - Fremont submitted a letter (151-14483-00018), indicating that the information provided in the application was incorrect. Based on the new information, on September 25, 2001, IDEM responded to the letter stating the source is still a FESOP based on the new information.

On June 26, 2001, Amcast Automotive - Fremont conducted PM/PM10 emissions testing for metal melting, as required by FESOP 151-11461-00018, issued on January 12, 2001. This testing was monitored and approved by IDEM. These test results were used in determining the potential to emit (PTE) of the furnaces during this MSOP review. Testing was conducted at Reverberatory Furnace # 4.

On November 26, 2001, Amcast Automotive - Fremont submitted a second letter (151-15211-00018) stating that the FESOP permit issued to them should be changed to a Minor Source Operating Permit (MSOP). This request is based on the following factors:

- (a) The single hazardous air pollutant (HAP) content, as ethylene glycol mono butyl ether, in the paint was originally reported as 1.76 lbs HAP per gallon of paint. The coating know as *Sparkle Silver* had the highest single HAP concentration at 20% by weight (this concentration was used as the basis for the potential to emit for FESOP 151-11461-00018), with the coating density being 8.8 lbs/gal. The actual HAP content in *Sparkle Silver* (Product No. WPB-3813-1) is 1.17 lbs/gal, based on manufacturer's information (MSDS and HAP documentation were submitted by the Permittee).
- (b) The "Gallons per unit of Material" had been misreported as 0.0125 gallons per unit. The actual highest gallon per unit (based on source's usage records for year 2000) is 0.0078125 gallon per unit, or 1.0 fluid oz. per wheel.

Based on the above factors, the uncontrolled PTE of a single HAP has been recalculated at less than 10 tons per year. Since FESOP 151-11461-00018 was originally issued pursuant to the incorrect determination that this uncontrolled PTE was greater than 10 tons per year, FESOP 151-11461-00018 is revoked herein and is replaced with MSOP 151-15211-00018.

The following table outlines the differences in the information submitted for the FESOP, the Review Request and MSOP:

<u>FESOP 151-11461-00018</u>	<u>Review Request 151-14438-00018</u>	<u>MSOP 151-15211-00018</u>
MSDS sheets submitted stated that the HAP content in Sparkle Silver was 20% (1.76 lb/gal)	Updated MSDS sheets submitted stated that the HAP content in Sparkle Silver is 1.17 lbs/gal (this information was used but the source was still considered a FESOP because coating and cleaning emissions combined were greater than 10 tons per year for HAP)	MSDS sheets, the same as in Review Request submitted stated that the HAP content in Sparkle Silver is 1.17 lbs/gal (the source has stated that coating and cleaning cannot be done at the same time because there is only one surface coating booth, thus HAP emissions are less than 10 tons per year)

In addition to the above reasons, the following information is used to evaluate the operating permit status for this source:

- (a) The surface coating operation emissions are calculated using the maximum capacity of 240 wheels per hour.
- (b) No “bottle neck” conditions were used in determining potential emissions. The maximum capacity of 240 wheels per hour were used in determining potential emissions.
- (c) Based on the MSDS sheets provided by the source, and an inspection of the source conducted by IDEM on February 18, 2003, the potential emissions of a single HAP are less than 10 tons per year even when the source operates at full capacity of 240 wheels per hour.

Permitted Emission Units and Pollution Control Equipment

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

- (a) One natural gas fired reverberatory furnace, installed in 1983 and identified as #2, with a maximum melt capacity of 1 ton of aluminum per hour and using up to 30 pounds solid flux per week, and with a maximum heat input rate of 4 million British thermal units per hour (MMBtu/hr), exhausting to one (1) stack identified as Rev2.
- (b) One natural gas fired reverberatory furnace, installed in 1983 and identified as #3, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 60 pounds solid flux per week, and a with maximum heat input rate of 6 MMBtu/hr. Reverberatory furnace #3 is equipped with an attached natural gas fired filter furnace with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week. Reverberatory furnace #3 exhausts to one (1) stack identified as Rev3.
- (c) One (1) natural gas fired reverberatory furnace with wet well, installed in 1983 and identified as #4, with a maximum melt capacity of 1.5 tons of aluminum per hour and using up to 140 pounds solid flux per week in the furnace and up to 192 pounds solid flux per day in the wet well, and a with maximum heat input rate of 6 MMBtu/hr. Reverberatory furnace #4 is equipped with an attached natural gas fired filter furnace with a maximum heat input rate of 1.5 MMBtu/hr, using up to 20 pounds solid flux per week. Reverberatory furnace #4 uses a natural gas fired afterburner for control of its wet well, with a heat input rating of 1.5 MMBtu/hr. Reverberatory furnace #4 exhausts to one (1) stack identified as Rev4.
- (d) One (1) pouring/casting operation with a maximum capacity of 4 tons of aluminum per hour, including twenty six (26) diecast machines with electric holding furnaces.

- (e) One (1) steel shot blast unit, with maximum throughput rate of 12 pounds per hour, controlled by one (1) baghouse, identified as SB2, exhausting to stack SB3.
- (f) One (1) conveyORIZED liquid paint line, identified as LP#1, used for partial painting of aluminum wheels, with nine spray guns and a maximum throughput rate of 240 wheels per hour and maximum paint usage of 1.0 fluid ounce per wheel, using dry paper filters for particulate matter overspray control, and exhausting to stack LPB.
- (g) Six (6) natural gas fired Heat Treat Furnaces, each with a maximum heat input rate of 3.25 MMBtu/hr, exhausting to stacks HT1, HT2, HT3, HT4, HT5 and HT6, respectively.
- (h) Two (2) natural gas fired Age Ovens, each with a maximum heat input rate of 1.5 MMBtu/hr.
- (i) Two (2) powder coating booths, each with a maximum throughput rate of 378 parts per hour each, each totally enclosed and using cartridge filters to recirculate powder for reuse in each booth.
- (j) One (1) natural gas fired hot water heater for the office, with a maximum heat input rate of 0.19 MMBtu/hr and exhausting to stack HWO.
- (k) One (1) natural gas fired hot water heater for the tool room, with a maximum heat input rate of 0.375 MMBtu/hr exhausting to stack TRHW.
- (l) Two (2) natural gas fired office furnaces, each with a maximum heat input rate of 0.252 MMBtu/hr each and exhausting to stack OFH.
- (m) One (1) natural gas fired hot water heater for the casting area, with a maximum heat input rate of 0.034 MMBtu/hr and exhausting to stack COHW.
- (n) One (1) natural gas fired riser tube oven, with a maximum heat input rate of 1.2 MMBtu/hr and exhausting to stack RTO.
- (o) One (1) natural gas fired paint area air makeup heater unit, with a maximum heat input rate of 2.2 MMBtu/hr.
- (p) One (1) natural gas fired LPL air make up heater unit, with a maximum heat input rate of 2.0 MMBtu/hr.
- (q) One (1) natural gas fired die preparation oven, with a maximum heat input rate of 0.5 MMBtu/hr and exhausting to stack DPO.
- (r) One (1) natural gas fired pretreat boiler, installed after September 21, 1983, with a maximum heat input rate of 6.6 MMBtu/hr.
- (s) Two (2) natural gas fired quench car preheat ovens, with maximum heat input rates of 2.0 and 2.5 MMBtu/hr.
- (t) One (1) natural gas fired hook burn-off oven, with a maximum heat input rate of 2.0 MMBtu/hr and exhausting to stack HBOO.
- (u) One (1) natural gas fired heated air sock, with a maximum heat input rate of 2.5 MMBtu/hr.
- (v) Two (2) natural gas fired dry off ovens, with maximum heat input rates of 2 MMBtu/hr each and exhausting to stacks DOO-1 and DOO-2.

- (w) Two (2) natural gas fired color cure back ovens, with maximum heat input rates of 2 MMBtu/hr each and exhausting to stacks BO-1 and BO-2.
- (x) One (1) natural gas fired aluminum chip centrifuge and drying system, identified as the Pre Melt Thermo Fuge system, processing a maximum of 3,000 pounds of aluminum chips per hour, with a maximum heat input rate of 0.5 MMBtu per hour.

Permitted Emission Units and Pollution Control Equipment Removed from the Source

One (1) steel shot blast unit, with a maximum throughput rate of 60 pounds per hour, controlled by one (1) baghouse, identified as SB1, exhausting to stack SB3.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

New Emission Units and Pollution Control Equipment Receiving Approval

There are no new emission units or pollution control equipment receiving approval during this review process.

Existing Approvals

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

- (a) Registration (no permit #), issued December 19, 1983, and Amended April 13, 1984;
- (b) Exemption (no permit #), issued on January 15, 1987;
- (c) Exemption (no copy found, referenced in letter for like-kind replacement 1991), issued on January 15, 1987;
- (d) Registration (no permit #), issued on August 11, 1989;
- (e) Permits Nos. (76) 1746 and 76-04-93-0059, issued respectively on April 21 and April 14, 1989;
- (f) Registration (no permit number), issued on February 7, 1991;
- (g) Registration No. 151-2521, issued on July 16, 1992;
- (h) Registration No. 151-2883, issued on April 28, 1993;
- (i) Registration No. 151-4213, issued on December 8, 1994;
- (j) Registration No. 151-4293, issued on April 25, 1995;
- (k) FESOP 151-11461-00018, issued on January 12, 2001; and
- (l) Review Request 151-14483-00018, issued on September 25, 2001.

All conditions from previous approvals were incorporated into this permit except the following:

- (a) FESOP No. F151-11461-00018, issued on January 12, 2001:

Conditions - All

Reason not incorporated: The FESOP is being revoked and replaced with this MSOP No. 151-15211-00018.

Enforcement Issue

A records review was conducted in September 2000 for the site by a representative of IDEM's Office of Air Quality (OAQ). The source was issued Agreed Order No. 2001-10142-A on April 27, 2001. The Agreed Order stated the following:

- (a) Pursuant to 326 IAC 2-7-3, no Part 70 source may operate after the time that it is required to submit a timely and complete application except in compliance with a Part 70 permit issued under this rule. A source can continue to operate without being in violation of this rule if it submits a timely and complete application.

This source operated without submitting a timely and complete Part 70 permit application, a violation of 326 IAC 2-7-3.

- (b) Pursuant to 326 IAC 2-7-4 an administratively complete timely Part 70 application is one that is received within twelve (12) months after the source becomes subject to the Part 70 permit program. For applicable sources in existence on December 14, 1995, the deadline is December 13, 1996. For other sources, the deadline is twelve (12) months from the date the source first meets an applicability criterion of section 2 of this rule.

This source failed to submit a timely Part 70 application because this source's administratively complete Part 70 permit application was received on September 15, 2000, after the December 13, 1996 submission deadline, a violation of 326 IAC 2-7-4.

The source was issued FESOP No. 151-11461-00018 on January 12, 2001. On June 8, 2001, the Permittee submitted a review request to IDEM asking for approval to change the operating status of the source from a FESOP to a MSOP. This request was denied on September 25, 2001.

On November 26, 2001, a second review request was submitted by the Permittee. Upon further review, and as discussed herein, it has been determined that the source operating status is that of an MSOP because the uncontrolled potential to emit air pollutants from the source does not equal or exceed the thresholds referenced at 326 IAC 2-6.1-2, as established at 326 IAC 2-5.1-3(a).

Recommendation

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

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

An application for the purposes of this review was received on November 26, 2001. Additional information has been received at multiple times throughout this review. This has included information collected by IDEM during a plant inspection conducted on February 18, 2003; emissions information collected from an IDEM witnessed stack test conducted on October 16, 2003; and a rule applicability determination made by U.S. EPA Region V on January 22, 2004.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 8). These emission calculations include revised potential to emit computations for the source’s liquid surface coating operation (i.e., LP#1). LP#1 has nine spray guns and only one type of paint can be sprayed onto a wheel at one time, as all the nine paint guns share one source of paint. Further, and more importantly in terms of this approval, cleaning solvents are not used simultaneously during painting operations at the booth. IDEM conducted an inspection of this source on February 18, 2003 to specifically verify this method of operation and the amount of paint applied at this facility. The results of IDEM’s inspection have confirmed the source’s method of operation LP#1 and potential amount of paint and solvent used at this booth. The related emission computations presented in Appendix A reflect these inspection results.

Potential To Emit of the Source Before Controls

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

Pollutant	Potential To Emit (tons/year)
PM	22.14
PM-10	22.13
SO ₂	0.54
VOC	20.82
CO	27.26
NO _x	32.64

HAPs	Potential To Emit (tons/year)
Glycol Ethers	9.61
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	0.02
Hexane	0.58
Toluene	negligible
Lead	negligible
Cadmium	negligible
Manganese	negligible
Nickel	negligible
Hydrogen Chloride (HCl)	0.15
Hydrogen Fluoride (HF)	0.40
TOTAL	10.77

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants is less than 100 tons per year, and the potential to emit (as defined in 326 IAC 2-7-1(29)) of PM, CO and NO_x are each greater 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.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of the combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not a major source of HAPs as defined in 326 IAC 2-7-1(22).

(c) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

This source is not considered as a *secondary metal production plant*, which is one of the twenty-eight (28) specifically listed source categories pursuant to 326 IAC 2-2(y)(1)(A) (i.e., Prevention of Significant Deterioration, PSD). On December 4, 1998, U.S. EPA issued a memorandum clarifying that die casting operations are not considered as secondary aluminum production plants for purposes of PSD, provided two (2) criteria are met. These criteria include plant use of either feedstock that is of a specified alloy and purity (e.g., ingots), or scrap of a specified quality for which little fluxing or alloying is required; and the plant cannot produce intermediate forms of feedstock for sale or use by other sources. The Fremont plant melts only clean charge and internal scrap; uses flux in amounts of less than one (1) percent (weight) of the aluminum processed, and does not produce an intermediate feedstock for sale/use by other sources. The Fremont plant is therefore considered as a die casting operation, and is not a *secondary metal production plant*.

County Attainment Status

The source is located in Steuben County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Steuben County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Steuben County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Source Status

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

Pollutant	Emissions (ton/yr)
PM	22.14
PM-10	22.13
SO ₂	0.54
VOC	20.82
CO	27.26
NO _x	32.64
Glycol Ethers	9.61
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	0.02
Hexane	0.58
Toluene	negligible
Lead	negligible
Cadmium	negligible
Manganese	negligible
Nickel	negligible
Hydrogen Chloride (HCl)	0.15
Hydrogen Fluoride (HF)	0.40

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on FESOP No. 151-11461-00018, and revised based on information supplied by the Permittee, as contained herein, to support this transition approval as MSOP No. 151-15211-00018.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, based on the total emissions indicated in this permit MSOP 151-15211-00018, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

This status is based on the re-evaluation of the potential to emit as reflected herein.

Federal Rule Applicability

- (a) The one (1) pretreat boiler, with a maximum heat input rate of 6.6 MMBtu/hr is not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40, Subpart Dc), because the boiler is rated at less than the rule applicability threshold of 10 MMBtu/hr.

- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (c) The natural gas fired aluminum chip centrifuge and drying system, identified as the Pre Melt Thermo Fuge system, is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart RRR (40 CFR 63.1500 through 63.1519). This is based on the rule applicability determination issued by U.S. EPA Region V on January 22, 2004.

Pursuant to 40 CFR 63.1500(a), the requirements of Subpart RRR apply to the owner or operator of each *secondary aluminum production facility*, as defined at §63.1503. Pursuant to §63.1503, aluminum die casting facilities, aluminum foundries, and aluminum extrusion facilities are not considered as a *secondary aluminum production facility* "...if the only materials they melt are *clean charge*, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns." Since the Fremont plant only melts clean charge (ingots) and internal scrap, Amcast decided to submit a determination request to U.S. EPA, Region V to ascertain whether the Pre Melt Thermo Fuge chip drying system would be considered as a *thermal chip dryer*, as defined in Subpart RRR. The Pre Melt system consists of both a centrifuge, which is used to first remove residual machining coolant from aluminum chips, and a dryer used to remove moisture from the chips. The Pre Melt system is designed to operate at a relatively low temperature (i.e., less than 300°F), and a *thermal chip dryer*, as defined, does not include pre-heaters or other heaters operating at implied low temperatures. The request was submitted to EPA by Amcast on December 16, 2003, and it also included a request for applicability with respect to the source being a *secondary aluminum production facility*, as defined in Subpart RRR.

On January 22, 2004, U.S. EPA, Region V issued an applicability determination to Amcast. Pursuant to this determination, EPA has concluded that the Thermo Fuge chip dryer operates below 300°F, and will not result in paint removal at the chip dryer. As such, EPA has concluded that the Pre Melt Thermo Fuge chip dryer is not considered a *thermal chip dryer* or *scrap delacquering kiln* under 40 CFR Part 63, Subpart RRR. Further, EPA has determined the source is not subject to the Secondary Aluminum Production NESHAP regulations, 40 CFR Part 63, Subpart RRR. This is based on the fact that the plant only processes clean charge and internal scrap and does not operate a *sweat furnace*, *thermal chip dryer*, or *scrap dryer/delacquering kiln/decoating kiln* as defined by 40 CFR §63.1503. The regulation at 40 CFR § 63.1503 excludes aluminum die casting facilities from the definition of a *secondary aluminum production facility* if the only materials they melt are clean charge, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns.

- (d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) applicable to this source.
- (e) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because the source is not a major source of hazardous air pollutant (HAP) emissions (i.e., the source does not have the potential to emit 10 tons per year or greater of a single HAP or 25 tons per year or greater of a combination of HAPs) and the source does not include one or more units that belong to one or more source categories affected by the Section 112(j) MACT Hammer date of May 15, 2002.
- (f) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this source. Such requirements apply to a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, at a major source that is required to obtain a Part 70 or 71 permit if the PSEU meets the following criteria:

- (1) the unit is subject to an emission limitation or standard for an applicable regulated air pollutant,
- (2) the unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard, and
- (3) the unit has a potential to emit (PTE) before controls equal to or greater than 100 percent of the amount (tons per year) of the pollutant required for a source to be classified as a Part 70 major source.

This source is an MSOP source and is not a major Part 70 source. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable to this source.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source submitted a Preventive Maintenance Plan (PMP) for review during IDEM's February 18, 2003 inspection of the plant. This PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

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

Pursuant to 326 IAC 2-2 (PSD), this existing minor source, originally constructed in 1983 after the August 7, 1977 rule applicability date, is still not considered a major source. This source is not one of the 28 listed source categories and it has never operated, nor does not have the potential to emit, at 250 tons per year (tpy) or more of any regulated pollutant. The uncontrolled PTE for the worst-case criteria pollutant emitted at this source, NOx, is 32.6 tons per year, below the 250 tpy PSD applicability threshold.

326 IAC 2-6 (Emission Reporting)

This source is located in Steuben County and the potential to emit all criteria pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-6.1 (Minor Source Operating Permit Limit)

IDEM conducted an inspection of this source on February 18, 2003. The primary purpose of the inspection was to verify the method of operation at the liquid spray paint booth, LP#1, and to confirm that the amount of paint applied at this facility was consistent with information supplied by the Permittee. The results of IDEM's inspection have confirmed the source's method of operation at LP#1, and the potential amount of paint and solvent used at this booth. The related emission computations presented in Appendix A reflect these inspection results.

While a detailed inspection of this plant has verified the material usage at LP#1, as indicated above, IDEM has decided that the Permittee shall be required to maintain coating material usage records in order to continue to demonstrate that this facility and source operate in a manner consistent with the operating permit status for this source (i.e., MSOP (326 IAC 2-6.1)). The Permittee shall be required to comply as follows:

The Permittee shall limit the average coating usage at LP#1 used for partial painting of aluminum wheels to less than or equal to 1.0 fluid ounce of coating per aluminum wheel, based on a 12 month averaging period. Violation of this condition would constitute a violation of 326 IAC 2-6.1 (MSOP).

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 Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

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

State Rule Applicability - Individual Facilities

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

This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control). The source does not have potential emissions, before controls, of 10 tons per year of any HAP or 25 tons per year of any combination of HAPs.

40 CFR 52 Subpart P (Incinerators)

Revisions to 326 IAC 4-2-2 (Incinerators) became effective during 2002. As of the date this permit is being issued, these revisions have not been approved by EPA into the Indiana State Implementation Plan (SIP); therefore, the following requirements from the previous version of 326 IAC 4-2-2, which has been approved into the SIP, will remain applicable requirements until the revisions to 326 IAC 4-2-2 are approved into the SIP and the condition is modified in a subsequent permit action.

Pursuant to 40 CFR 52 Subpart P, the natural gas fired hook burn-off oven, rated at 2.0 MMBtu per hour, shall:

- (a) consist of primary and secondary chambers or the equivalent;
- (b) be equipped with a primary burner unless burning wood products;
- (c) comply with 326 IAC 5-1 and 326 IAC 2;
- (d) be maintained properly as specified by the manufacturer and approved by the commissioner;
- (e) be operated according to the manufacturer's recommendations and only burn waste approved by the commissioner;
- (f) comply with other state and/or local rules or ordinances regarding installation and operation of incinerators;
- (g) be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemicals or gases, or noxious odors are prevented;
- (h) not emit particulate matter in excess of three-tenths (0.3) pounds of particulate matter per one thousand (1,000) pounds of dry exhaust gas at standard conditions corrected to fifty percent (50%) excess air; and
- (i) not create a nuisance or a fire hazard.

The operation of this natural gas fired hook burn-off oven shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

Allowable PM = 0.3 pounds per one thousand (1,000) pounds of dry exhaust gas at standard conditions. As stated in the permit application the Manufacturer's guaranteed particulate emission rate is 0.3 pounds or less particulate matter per 1000 pound dry exhaust gas corrected to 50% excess air. Therefore, this facility will comply with 326 IAC 4-2-2.

326 IAC 4-2-2 (Incinerators: Requirements)

This rule applies to the natural gas fired hook burn-off oven. Pursuant to 326 IAC 4-2-2 (Incinerators: Requirements), the natural gas fired hook burn-off oven, rated at 2.0 MMBtu per hour, shall comply with the following:

- (a) The incinerator shall comply with the following requirements:
 - (1) Consist of primary and secondary chambers or the equivalent.
 - (2) Be equipped with a primary burner unless burning only wood products.
 - (3) Comply with 326 IAC 5-1 and 326 IAC 2.
 - (4) Be maintained, operated, and burn waste in accordance with the manufacturer's specifications or an operation and maintenance plan as specified in paragraph (c) of this condition.
 - (5) Not emit particulate matter in excess of three-tenths (0.3) pound of particulate matter per one thousand (1,000) pounds of dry exhaust gas under standard conditions corrected to fifty percent (50%) excess air for incinerators with a maximum solid waste capacity of greater than or equal to two hundred (200) pounds per hour.
 - (6) If any of the requirements of (1) through (5) are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.
- (b) An incinerator is exempt from paragraph (a)(5) of this condition if subject to a more stringent particulate matter emission limit in 40 CFR 52 Subpart P, State Implementation Plan for Indiana.
- (c) A Permittee developing an operation and maintenance plan pursuant to paragraph (a)(4) of this condition must comply with the following:
 - (1) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in paragraph (a)(5) of this condition and include the following:
 - (A) Procedures for receiving, handling, and charging waste.
 - (B) Procedures for incinerator startup and shutdown.
 - (C) Procedures for responding to a malfunction.
 - (D) Procedures for maintaining proper combustion air supply levels.
 - (E) Procedures for operating the incinerator and associated air pollution control systems.
 - (F) Procedures for handling ash.
 - (G) A list of wastes that can be burned in the incinerator.

- (2) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
 - (3) The operation and maintenance plan must be readily accessible to incinerator operators.
 - (4) The Permittee shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section.
- (d) The Permittee shall make the manufacturer's specifications or the operation and maintenance plan available to the department upon request.

Allowable PM = 0.3 pounds per one thousand (1,000) pounds of dry exhaust gas at standard conditions. As stated in the permit application the Manufacturer's guaranteed particulate emission rate is 0.3 pounds or less particulate matter per 1000 pound dry exhaust gas corrected to 50% excess air. Therefore, this facility will comply with 326 IAC 4-2-2.

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

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), PM emissions from the preheat boiler, as a facility installed after September 21, 1983, shall be limited to 0.6 pounds per MMBtu heat input determined as the **lesser** of the value Pt computed with the following formula,

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

where: Pt = pounds of PM emitted per MMBtu heat input (lb/MMBtu)
 Q = total source operating capacity rating (MMBtu/hr)

or six-tenths (0.6) pounds per MMBtu, for values of Q less than ten (10) MMBtu per hour.

Pt for this indirect heating facility is computed as follows:

$$Pt = 1.09 / (6.6)^{0.26}, \text{ where } Q \text{ reflects the preheat boiler as the total of indirect heating units at this source} \\ = 0.67 \text{ lb/MMBtu; however, pursuant to 326 IAC 6-2-4(a), } Pt \text{ shall not exceed } \\ 0.6 \text{ lb/MMBtu for } Q \text{ less than 10 MMBtu.}$$

Potential PM emissions for the preheat boiler:

$$= 0.05 \text{ tons per year, based on page 7 of 8 of Appendix A} \\ = (0.05 \text{ tons PM/yr}) * (2,000 \text{ lbs/ton}) * (1 \text{ yr} / 8,760 \text{ hrs}) * (1 \text{ hr} / 6.6 \text{ MMBtu}) \\ = 0.0017 \text{ lbs PM / MMBtu}$$

Based on these calculations, the boiler complies with the rule.

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

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emitted from the facilities listed below shall be limited as stated, based on the following:

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:

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

Emission Unit/Activity	Process Weight Rate (tons/hr)	Uncontrolled Particulate Emissions (lb/hr)	Allowable Particulate Emissions (326 IAC 6-3-2) (lb/hr)
Reverberatory Furnace #2	1.0	0.31	4.10
Reverberatory Furnace #3	1.5	0.50	5.38
Reverberatory Furnace #4	1.5	1.91	5.38
pouring/casting operation	4.0	0.76	10.38
Pre Melt Thermo Fuge aluminum chip centrifuge and drying system	1.5	0.001*	5.38

*The EPA has determined this unit to be a preheater used to remove moisture from the chips during drying. The potential emission rate is that for natural gas combustion, based on the relevant AP42 emission factor.

- (b) 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.

The one (1) steel shot blast unit, with a maximum throughput rate of 12 pounds per hour shall be subject to this 0.551 pounds per hour limit. The source will comply with this limit by the continued use of baghouse control of this facility.

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

Particulate from the one (1) surface coating booth LP#1 shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

- (d) IDEM has inspected the source and the two (2) powder coating facilities on February 18, 2003. IDEM has confirmed that neither facility has an exhaust system, and the units are totally enclosed and there are no potential particulate emissions from either facility. Therefore, the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations) do not apply.
- (e) The requirements of 326 IAC 6-3-2 do not apply to the six (6) natural gas fired heat treat furnaces because they are natural gas fired combustion units.

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

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the applicator at the one (1) surface coating booth LP#1 shall be limited to 3.5 pounds of VOCs per gallon of coating less water each, for forced warm air dried coatings.

Pursuant to MSDS submitted by the applicant, the IDEM inspection of this facility made on February 16, 2003, and the compliance calculations made (see page 2 of 8 Appendix A), the volume-weighted average VOC content from the one (1) surface coating booth is less than 3.5 lb/gal, therefore, the facilities are in compliance with 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations). The daily volume-weighted average VOC content shall be determined by use of the equation:

$$A = [\sum (c) \times U] / \sum U$$

where: A = daily volume-weighted average in pounds VOC per gallon less water as applied;
C = VOC content of the individual coating in pounds VOC per gallon less water as applied; and
U = usage rate of the individual coating in gallons per day.

Daily volume-weighted average calculations are required only when noncompliant coatings are averaged with compliant coatings or if thinners or other additives are added to the paint. Daily volume-weighted average calculations are not required when using compliant coatings with no thinner or additives.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized. Based on the MSDS submitted by the source and calculations made, including the IDEM inspection of this facility on February 16, 2003, the spray booth is in compliance with this requirement.

Testing Requirements

There are no testing requirements for the three (3) natural gas fired reverberatory furnaces, identified as #2, #3 and #4, because the Permittee was required to perform an one time stack test for PM between 3 and 6 months after issuance of FESOP 151-11461-00018 (issued on January 12, 2001). On July 26, 2001, the Permittee conducted stack testing for PM and PM10 on reverberatory furnace #4. The results of this test were acceptable to the Compliance Data Section and demonstrated compliance with the limits established in the FESOP.

On July 2, 2003, a letter was sent to the Permittee requesting information on flux usage at the source's metal production process, such that hydrogen chloride (HCl) and hydrogen fluoride (HF) emission rates for the source could be determined. The Permittee supplied the requested information on July 16, 2003 and July 29, 2003. The information supplied by the Permittee included emission rate computations that assumed full (100%) conversion of flux chlorides and fluorides to HCl and HF. Under this scenario, single HAP emissions (HCl) were estimated to be greater than 10 tons per year. The Permittee requested that they be allowed to conduct an emissions stack test to refine these emission estimates. IDEM agreed and, after submitting their requisite test protocol, the Permittee conducted the IDEM witnessed test on October 16, 2003. The results of this test have been approved by IDEM for use herein, and such is reflected on page 5 of 8 of Appendix A. The results have demonstrated that the potential HCl and HF emission rates are each well below 10 tons per year, and the source remains an area source, pursuant to the definition of such at 40 CFR 63.2.

No additional stack tests are currently required for this source.

Conclusion

The operation of this aluminum die casting source producing alloy wheels shall be subject to the conditions of the attached proposed Minor Source Operating Permit No. 151-15211-00018.

Appendix A: Emission Calculations

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
MSOP: 151-15211
Pit ID: 151-00018
Reviewer: MH/EVP

Uncontrolled Potential to Emit (tons/year)							
Emissions Generating Activity							
Pollutant	Surface Coating	Reverberatory Furnaces*	Pre Melt Thermo Fuge Chip Dryer**	Pouring Casting	Blasting Operation	Natural Gas Combustion	TOTAL
PM	6.30	12.10	0.004	3.55	0.21	0.63	22.79
PM10	6.30	11.64	0.02	1.89	0.18	2.50	22.53
SO2	0.00	0.00	0.00	0.35	0.00	0.20	0.55
NOx	0.00	0.00	0.22	0.18	0.00	32.90	33.29
VOC	13.08	3.50	0.01	2.45	0.00	1.81	20.85
CO	0.00	0.00	0.18	0.00	0.00	27.63	27.82
total HAPs	9.61	0.38	negligible	0.17	0.00	0.62	10.78
worst case single HAP	9.61	0.27	negligible	0.13	0.00	0.60	9.61
Total emissions based on rated capacity at 8,760 hours/year.							
* This includes metal melting and flux addition.							
**The EPA has determined this unit to be a preheater used to remove moisture from the chips during drying. The emission rates are those for natural gas combustion, based on AP42 emission factors.							
Controlled Potential to Emit (tons/year)							
Emissions Generating Activity							
Pollutant	Surface Coating	Reverberatory Furnaces*	Pre Melt Thermo Fuge Chip Dryer**	Pouring Casting	Blasting Operation	Natural Gas Combustion	TOTAL
PM	0.32	12.10	0.004	3.55	0.00	0.62	16.59
PM10	0.32	11.64	0.02	1.89	0.00	2.45	16.32
SO2	0.00	0.00	0.00	0.35	0.00	0.19	0.54
NOx	0.00	0.00	0.22	0.18	0.00	32.24	32.64
VOC	13.08	3.50	0.01	2.45	0.00	1.78	20.82
CO	0.00	0.00	0.18	0.00	0.00	27.08	27.26
total HAPs	9.61	0.38	negligible	0.17	0.00	0.61	10.77
worst case single HAP	9.61	0.27	negligible	0.13	0.00	0.58	9.61
Total emissions based on rated capacity at 8,760 hours/year, after control.							
* This includes metal melting and flux addition.							
**The EPA has determined this unit to be a preheater used to remove moisture from the chips during drying. The emission rates are those for natural gas combustion, based on AP42 emission factors.							

VOC and Particulate

From Surface Coating Operations

Company Name: Amcast Automotive - Fremont
 Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
 MSOP: 151-15211
 Pit ID: 151-00018
 Reviewer: MH/EVP

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
Sparkle Silver	8.8	66.30%	48.5%	17.8%	51.5%	27.10%	0.0078125	240.000	3.23	1.57	2.94	70.49	12.86	6.09	5.78	75%
Sparkle Gold	8.9	65.50%	48.7%	16.8%	51.7%	27.40%	0.0078125	240.000	3.10	1.50	2.80	67.28	12.28	6.30	5.46	75%
Chevy Blazer	8.7	71.00%	52.7%	18.3%	54.8%	23.60%	0.0078125	240.000	3.52	1.59	2.99	71.64	13.08	5.18	6.75	75%

Uncontrolled Potential to Emit

2.99 71.64 13.08 6.30

	Control Efficiency:		Controlled VOC lbs per Hour	Controlled VOC lbs per Day	Controlled VOC tons per Year	Controlled PM tons/yr
	VOC	PM				
Controlled Potential to Emit:	0.00%	95.00%	2.99	71.64	13.08	0.32

Note: The surface coating booth has nine spray guns. Coatings are mutually exclusive. Only one paint can be sprayed onto a wheel at one time. All the nine paint guns share one source of paint. No cleaning solvent is added to the worst case coating because the source only has one (1) surface coating booth and all nine (9) guns are used simultaneously, therefore coating and cleaning cannot be done at the same time. IDEM has inspected this plant and evaluated this coating operation and confirmed this stated method of solvent usage at this operation to be accurate.

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) * (lbs/gal) * (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)

Compliance Calculations for the one (1) surface coating booth

	Coating Usage (gal/hr)		VOC lb/gal of coating	=	lb VOC/hr
Sparkle Silver	1.68	X	3.23	=	5.426
Sparkle Gold	1.68	X	3.10	=	5.208
Chevy Blazer	1.68	X	3.52	=	5.914
Total	5.04				16.548

Daily Volume-Weighted Average

16.548/5.04 = 3.28 VOC lb/gal

Daily Volume-Weighted Average = (daily individual coating usage (gal/day)* Ec) / (daily coating usage (gal/day))
 where: Ec = pounds of VOC per gallon of coating less water for each coating

Appendix A: Emission Calculations
HAP Emission Calculations from Surface Coating

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
MSOP: 151-15211
Plt ID: 151-00018
Permit Reviewer: MH/EVP

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Glycol Ethers	Glycol Ethers Emissions (ton/yr)
Sparkle Silver	8.8	0.0078125	240.00	13.30%	9.61
Sparkle Gold	8.9	0.0078125	240.00	12.70%	9.28
Chevy Blazer	8.7	0.0078125	240.00	0.00%	0.00

Total Uncontrolled Potential to Emit

9.61

Note: Coatings are mutually exclusive.

The Chevy Blazer coating does not contain any HAPs.

The cleaning solvent HAP is not being added to the worst case HAP because the source only has one (1) surface coating booth and all nine (9) guns are used simultaneously, therefore coating and cleaning cannot be done at the same time. IDEM has inspected this plant and evaluated this coating operation and confirmed this stated method of solvent usage at this operation to be accurate.

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

Weight % Glycol Ethers were calculated as follows:

Sparkle Silver = Glycol Ether concentration (1.17 lb/gal) / Density (8.8 lb/gal) x 100% = 13.30%

Sparkle Gold = Glycol Ether concentration (1.13 lb/gal) / Density (8.9 lb/gal) x 100% = 12.70%

Appendix A: Aluminum Calculations

Company Name: Amcast Automotive - Fremont
 Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
 MSOP: 151-15211
 Pit ID: 151-00018
 Reviewer: MH/EVP

SCC# 3-04-001-03 Reverberatory Furnaces #2						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	2000	2000	1			
	PM * lbs/ton Produced	PM10 * lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC** lbs/ton Produced	CO lbs/tons Produced
	0.27	0.44	--	--	0.2	--
Potential Emissions lbs/hr	0.27	0.44	--	--	0.20	--
Potential Emissions lbs/day	6.48	10.56	--	--	4.80	--
Potential Emissions tons/year	1.18	1.93	--	--	0.88	--
SCC# 3-04-001-03 Reverberatory Furnaces #3						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	3000	2000	1.5			
	PM * lbs/ton Produced	PM10 * lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC** lbs/ton Produced	CO lbs/tons Produced
	0.27	0.44	--	--	0.2	--
Potential Emissions lbs/hr	0.41	0.66	--	--	0.30	--
Potential Emissions lbs/day	9.72	15.84	--	--	7.20	--
Potential Emissions tons/year	1.77	2.89	--	--	1.31	--
SCC# 3-04-001-03 Reverberatory Furnaces #4						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	3000	2000	1.5			
	PM * lbs/ton Produced	PM10 * lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC** lbs/ton Produced	CO lbs/tons Produced
	0.27	0.44	--	--	0.2	--
Potential Emissions lbs/hr	0.41	0.66	--	--	0.30	--
Potential Emissions lbs/day	9.72	15.84	--	--	7.20	--
Potential Emissions tons/year	1.77	2.89	--	--	1.31	--
SCC# 3-04-001-14 Pouring/Casting						
TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	8000	2000	4			
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx** lbs/ton Produced	NOx** lbs/ton Produced	VOC** lbs/ton Produced	CO lbs/tons Produced
	--	--	0.02	0.01	0.14	--
Potential Emissions lbs/hr	***	***	0.08	0.04	0.56	--
Potential Emissions lbs/day	***	***	1.92	0.96	13.44	--
Potential Emissions tons/year	***	***	0.35	0.18	2.45	--

* Emission factor is from source testing conducted at Reverberatory Furnace 4 on July 26, 2001. IDEM required only one furnace (Rev. Furnace 4) to be tested since IDEM determined the furnaces to be of sufficiently similar operation and raw material usage such that the worst case furnace, Furnace 4, would serve as the representative furnace for the plant. The testing did not include addition of flux during the melt, but PM/PM10 emissions during metal fluxing are determined on page 5 of 8 of Appendix A.

** Emission factor is from Fire version 6.23

*** See page 5 of 8 for PM/PM10 emissions from flux usage at pouring/casting.

**Appendix A: Emission Calculations
Source Fluxing Operations**

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 48737
MSOP: 151-15211
Plt ID: 151-00018
Reviewer: MH/EVP

Facility	Potential Flux Usage (lb/year)	Emission Factor*				Potential to Emit (tons/year)			
		PM lb/ton chlorine used	PM10 lb/ton chlorine used	HCl lb HCl / lb flux	HF lb HF / lb flux	PM	PM10	HCl	HF
Injection Fluxing (Wedron HMC-3 type flux)									
Reverb Furnace2 (Rev2)	1,560	1000	532	0.0016	0.0170	0.13	0.07	0.001	0.013
Reverb Furnace3 (Rev3)	3,120	1000	532	0.0016	0.0170	0.26	0.14	0.002	0.027
Reverb Furnace4 (Rev4)	7,280	1000	532	0.0016	0.0170	0.60	0.32	0.006	0.062
Reverb Furnace 3 & 4 Filter Boxes	1,040	1000	532	0.0016	0.0170	0.09	0.05	0.001	0.009
Casting Machine Electric Holding Furnaces	5,200	1000	532	0.0016	0.0170	0.43	0.23	0.004	0.044
Cover Fluxing (Foseco Coveral 173 type flux)									
Reverb Furnace 4 Chip Melting Well	69,888	1000	532	0.0026	0.0047	6.30	3.35	0.091	0.163
Transfer Ladles (to casting)	27,300	1000	532	0.0026	0.0047	2.46	1.31	0.035	0.064
Casting Machine Electric Holding Furnaces	7,280	1000	532	0.0026	0.0047	0.66	0.35	0.009	0.017
Total Potential to Emit (tons/year):						10.92	5.81	0.150	0.398
<small>*PM & PM10 emission factors taken from AP-42, 5th Ed., Suppl. B Table 12.8-3., as lb/ton chlorine used. Flux chlorine contents are 36.1% (wt) & 33.1% (wt) for Foseco & Wedron flux, respectively. *HCl & HF based on October 16, 2003 IDEM witnessed stack test, determined as follows: For injection type flux, HCl Emission Factor: 0.032 lbs / 20 lbs flux & HF Emission Factor: 0.34 lbs / 20 lbs flux For cover type flux, HCl Emission Factor: 0.039 lbs / 15 lbs flux & HF Emission Factor: 0.07 lbs / 15 lbs flux Potential flux usage is the maximum quantity of flux added to each facility, times the fluxing frequency per week, extrapolated to 52 weeks per year.</small>									

**Appendix A: Emission Calculations
Abrasive Blasting - Confined**

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
MSOP: 151-15211
Plt ID: 151-00018
Reviewer: MH/EVP

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Steel Shot Blast

Flow Rate (FR) (lb/hr) = 12.000 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 =

0.004
12.000
0 %
1

Uncontrolled PM Emissions =	0.05 lb/hr
	0.21 ton/yr
Uncontrolled PM10 Emissions =	0.04 lb/hr
	0.18 ton/yr

control efficiency:	99.5%
Controlled PM Emissions =	0.001 ton/yr
Controlled PM10 Emissions =	0.001 ton/yr

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
 Flow Rate (FR) (lb/hr) was provided by the source
 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: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
MSOP: 151-15211
Plt ID: 151-00018
Reviewer: MH/EVP

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
75.603	662.3

Facilities	MMBtu/hr	Facilities	MMBtu/hr
reverberatory furnace #2	4		
reverberatory furnace #3	6		
reverberatory furnace #4	6		
heat treat furnaces (6)	19.5		
age ovens (3)	4.5		
hot water heater	0.19		
hot water heater	0.375		
office boilers (2)	0.504		
hot water heater	0.034		
riser tube oven	1.2		
air makeup heater	2.2		
air makeup heater	2		
die preparation oven	0.5		
pretreat boiler	6.6		
quench car preheat (2)	4.5		
hook burn-off oven	2		
heated air sock	2.5		
dry off ovens (2)	4		
cure back ovens (2)	4		
filter furnace for #3	1.5		
filter furnace for #4	1.5		
cyclone chip dryer	0.5		
afterburner for #4	1.5		
Total	75.603		

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr for cyclone chip dryer	0.004	0.017	0.001	0.219	0.012	0.184
Potential Emission in tons/yr for all other combustion	0.625	2.500	0.197	32.895	1.809	27.632
Potential Emission in tons/yr (total)	0.629	2.517	0.199	33.114	1.821	27.816

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

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

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

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

HAPs Emissions

Company Name: Amcast Automotive - Fremont
Address City IN Zip: 706 E. Depot Street, Fremont, IN 46737
MSOP: 151-15211
Plt ID: 151-00018
Reviewer: MH/EVP

HAPs - Organics

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	6.954E-04	3.974E-04	2.484E-02	5.961E-01	1.126E-03

HAPs - Metals

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.656E-04	3.643E-04	4.636E-04	1.258E-04	6.954E-04

Methodology is the same as page 7 of 8.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.