



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: August 23, 2011

RE: Ryobi Die Casting / 145-30081-00031

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot12/03/07



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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**Ryobi Die Casting
800 West Mausoleum Road
Shelbyville, Indiana 46176**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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

Operation Permit No.: F145-30081-00031	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 23, 2011 Expiration Date: August 23, 2021

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

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary aluminum die-casting plant and uses clean aluminum ingots and is not primarily engaged in the metal recovery process.

Source Address:	800 West Mausoleum Road, Shelbyville, Indiana 46176
General Source Phone Number:	317-392-8398
SIC Code:	3363 (Aluminum Die Castings)
County Location:	Shelby
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

This aluminum die casting company consists of four (4) plants which represent four physical buildings. Since these four (4) plants are located on the same property and under common control of the same entity, they will be considered one (1) source in this FESOP.

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

- (a) Ten (10) shotblasting lines, constructed after 1986, consisting of the following:
- (1) One (1) shotblasting line, identified as SBS-6, with maximum process rate of 3,239 pounds of parts per hour, controlled by scrubber WDC-4, and exhausting through stack SV# WDC-4.
 - (2) One (1) shotblasting line, identified as SBS-7, with maximum process rate of 1900 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.
 - (3) Two (2) shotblasting lines, identified as SBS-9 and SBS-10, with maximum process rates of 1,640 and 4,000 pounds of parts per hour respectively, controlled by scrubber WDC-2, and exhausting through stack SV# WDC-2.
 - (4) Two (2) shotblasting lines, identified as 03-SBS-01 and 03-SBS-04, with maximum process rates of 5,670 and 2,403 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-01, and exhausting through stack SV# 03-WDC-01.
 - (5) Two (2) shotblasting lines, identified as 03-SBS-02 and 03-SBS-03, with maximum process rates of 1,280 and 1,920 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-02, and exhausting through stack SV# 03-WDC-02.

- (6) One (1) shotblasting line, identified as 03-SBS-06, with a maximum process rate of 3,008 pounds of parts per hour, controlled by scrubber 03-WDC-03, and exhausting through stack SV# 03-WDC-03.
 - (7) One (1) shotblasting line, identified as SBS-11 with maximum process rate of 1,640 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.
- (b) Seven (7) natural gas-fired aluminum melting furnaces, using propane as back-up fuel, consisting of the following:
- (1) One (1) aluminum melting furnace, identified as MF-5, constructed in 1989, with a maximum throughput rate of 10,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 14.4 MMBtu/hr, and exhausting through stack SV# MF-5.
 - (2) One (1) aluminum melting furnace, identified as MF-6, constructed in 1994, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 19.3 MMBtu/hr, and exhausting through stack SV# MF-6.
 - (3) One (1) aluminum melting furnace, identified as MF-1S, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 15.0 MMBtu/hr, and exhausting through stack SV# MF-1S.
 - (4) One (1) aluminum melting furnace, identified as MF-2M, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 23.8 MMBtu/hr, and exhausting through stack SV# MF-2M.
 - (5) One (1) aluminum melting furnace, identified as MF-3N, constructed in 2000, with a maximum throughput rate of 7,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 13.4 MMBtu/hr, and exhausting through stack SV# MF-3N.
 - (6) One (1) aluminum melting furnace, identified as MF-1, constructed in 2005, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 18 MMBtu/hr, and exhausting through stack SV# MF-1.
 - (7) One (1) aluminum melting furnace, identified as MF-7, approved for construction in 2007, with a maximum throughput rate of 3,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 3.074 MMBtu/hr, and exhausting through stack SV# MF-7.
- (c) One (1) aluminum scrap handling process, with a maximum throughput rate of 12,500 pounds of trimmed aluminum parts per hour.
- (d) One (1) aluminum die casting process, constructed in 1986, with a maximum throughput rate of 27.5 tons of parts per hour.

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

This stationary source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour each:
- (1) One hundred and four (104) natural gas-fired combustion units in Plant 1, with a total heat capacity of 104.36 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) Three (3) pre-heat stations, each with a maximum heat input of 0.008 MMBtu/hr.
 - (B) One (1) make-up air unit, with a maximum heat input of 1.02 MMBtu/hr.
 - (C) Three (3) make-up air units, each with a maximum heat input of 1.972 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 2.066 MMBtu/hr.
 - (E) Four (4) make-up air units, each with a maximum heat input of 2.137 MMBtu/hr.
 - (F) Sixteen (16) make-up air units, each with a maximum heat input of 2.1875 MMBtu/hr.
 - (G) Two (2) make-up air units, each with a maximum heat input of 2.324 MMBtu/hr.
 - (H) One (1) make-up air unit, with a maximum heat input of 2.5 MMBtu/hr.
 - (I) Two (2) make-up air units, each with a maximum heat input of 3.052 MMBtu/hr.
 - (J) Six (6) make-up air units, each with a maximum heat input of 3.327 MMBtu/hr.
 - (K) One (1) make-up air unit, with a maximum heat input of 4.1 MMBtu/hr.
 - (L) One (1) make-up air unit, with a maximum heat input of 5 MMBtu/hr.
 - (M) Fifty-one (51) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
 - (N) Ten (10) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (O) One (1) office heater, with a maximum heat input of 0.215 MMBtu/hr.
 - (P) One (1) office heater, with a maximum heat input of 0.16 MMBtu/hr.
 - (2) Fourteen (14) natural gas-fired combustion units in Plant 2, with a total heat capacity of 11.12 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) One (1) make-up air unit, with a maximum heat input of 0.75 MMBtu/hr.
 - (B) One (1) air curtain, with a maximum heat input of 3.5 MMBtu/hr.
 - (C) One (1) air curtain, with a maximum heat input of 3.0 MMBtu/hr.

- (D) One (1) air curtain, with a maximum heat input of 2.203 MMBtu/hr.
- (E) Nine (9) space unit heaters, each with a maximum heat input of 0.2 MMBtu/hr.
- (F) One (1) office heater, with a maximum heater input of 0.0514 MMBtu/hr.
- (3) Eighty-eight (88) natural gas-fired combustion units in Plant 3 (with no back-up fuel), with a total heat capacity of 117.12 MMBtu/hr, including the following:
 - (A) Two (2) pre-heat stations, each with a maximum heat input of 2.0 MMBtu/hr.
 - (B) Six (6) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (C) Eight (8) door heaters, each with a maximum heat input of 0.814 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 0.751 MMBtu/hr.
 - (E) Two (2) make-up air units, each with a maximum heat input of 1.503 MMBtu/hr.
 - (F) Six (6) make-up air units, each with a maximum heat input of 1.784 MMBtu/hr.
 - (G) One (1) make-up air unit, with a maximum heat input of 1.972 MMBtu/hr.
 - (H) Three (3) make-up air units, each with a maximum heat input of 2.536 MMBtu/hr.
 - (I) Four (4) make-up air units, each with a maximum heat input of 3.287 MMBtu/hr.
 - (J) Sixteen (16) make-up air units, each with a maximum heat input of 3.945 MMBtu/hr.
 - (K) Thirty-nine (39) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
- (4) Seven (7) natural gas-fired combustion units in Plant 4, with a total heat capacity of 1.5 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) Five (5) unit heaters, each with a maximum heat input of 0.216 MMBtu/hr.
 - (B) One (1) door heater, with a maximum heat input of 0.39 MMBtu/hr.
 - (C) One (1) AC/heater, with a maximum heat input of 0.031 MMBtu/hr.
- (b) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.

- (d) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
- (e) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (f) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (g) Cleaners and solvents having a vapor pressure equal to or less than 2kPa (15mm Hg or 0.3 psi) measured at 38 degrees C (100°F) or a vapor pressure equal to or less than 0.7 kPa (5mm Hg, or 0.1 psi) measured at 20°C (68°F), the use of which for all cleaners and solvents combined does not exceed 145 gallons per twelve (12) consecutive month period.
- (h) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (i) Quenching operations used with heat treating processes.
- (j) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (k) Paved and unpaved roads and parking lots with public access.
- (l) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (m) Stationary fire pumps.
- (n) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

- (a) This permit, F145-30081-00031, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

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

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
 - (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

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

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (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.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) 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.12 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

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

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

- (a) All terms and conditions of permits established prior to F145-30081-00031 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

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

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

**B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]**

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

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
- (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

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

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
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Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

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

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

Indiana Department of Environmental Management
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100 North Senate Avenue
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and

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

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

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

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

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

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

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

pollution control equipment), practices, or operations regulated or required under this permit;

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

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

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

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Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.23 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

- (a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

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

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

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

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

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

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

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

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

C.8 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
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no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
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in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

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

C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.14 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline

- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

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

C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

- (a) Ten (10) shotblasting lines, constructed after 1986, consisting of the following:
 - (1) One (1) shotblasting line, identified as SBS-6, with maximum process rate of 3,239 pounds of parts per hour, controlled by scrubber WDC-4, and exhausting through stack SV# WDC-4.
 - (2) One (1) shotblasting line, identified as SBS-7, with maximum process rate of 1900 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.
 - (3) Two (2) shotblasting lines, identified as SBS-9 and SBS-10, with maximum process rates of 1,640 and 4,000 pounds of parts per hour respectively, controlled by scrubber WDC-2, and exhausting through stack SV# WDC-2.
 - (4) Two (2) shotblasting lines, identified as 03-SBS-01 and 03-SBS-04, with maximum process rates of 5,670 and 2,403 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-01, and exhausting through stack SV# 03-WDC-01.
 - (5) Two (2) shotblasting lines, identified as 03-SBS-02 and 03-SBS-03, with maximum process rates of 1,280 and 1,920 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-02, and exhausting through stack SV# 03-WDC-02.
 - (6) One (1) shotblasting line, identified as 03-SBS-06, with a maximum process rate of 3,008 pounds of parts per hour, controlled by scrubber 03-WDC-03, and exhausting through stack SV# 03-WDC-03.
 - (7) One (1) shotblasting line, identified as SBS-11, with a maximum process rate of 1,640 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.

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

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

D.1.1 PM, PM10 and PM2.5 Emissions [326 IAC 2-2] [326 IAC 2-8-4]

- (a) Pursuant to 326 IAC 2-8, the PM10 and PM2.5 emissions from the shotblasting lines shall not exceed the emission limits listed in the table below:

Unit ID	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
SBS-6	1.92	1.92
SBS-7	1.92	1.92
SBS-9	1.92	1.92
SBS-10	1.38	1.38
SBS-11	1.92	1.92
03-SBS-01	1.38	1.38
03-SBS-02	1.92	1.92
03-SBS-03	1.92	1.92
03-SBS-04	1.92	1.92
03-SBS-06	1.22	1.22

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

- (b) In order to render 326 IAC 2-2 not applicable, the PM emissions from the shotblasting lines shall not exceed the emission limits listed in the table below:

Unit ID	PM Emission Limit (lbs/hr)
SBS-6	1.92
SBS-7	1.92
SBS-9	1.92
SBS-10	1.38
SBS-11	1.92
03-SBS-01	1.38
03-SBS-02	1.92
03-SBS-03	1.92
03-SBS-04	1.92
03-SBS-06	1.22

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

D.1.2 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate emissions from each of following shotblasting lines shall not exceed the pound per hour limits listed in the table below:

Unit ID	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
SBS-6	3,239	5.66
SBS-7	1,900	3.96
SBS-9	1,640	3.59
SBS-10	4,000	6.52
SBS-11	1,640	3.59
03-SBS-01	5,670	8.24
03-SBS-02	1,280	3.04
03-SBS-03	1,920	3.99
03-SBS-04	2,403	4.64
03-SBS-06	3,008	5.39

The pounds per hour limitations were calculated using the following equations:

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:

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

D.1.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and the control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.4 Particulate Control

In order to comply with Conditions D.1.1 and D.1.2, each of the following shotblasting lines shall be controlled by the associated scrubber, as listed in the table below, when these units are in operation:

Unit ID	Scrubber ID
SBS-6	WDC-4
SBS-7	WDC-1
SBS-11	
SBS-9	WDC-2
SBS-10	
03-SBS-01	03-WDC-01
03-SBS-04	
03-SBS-02	03-WDC-02
03-SBS-03	
03-SBS-06	03-WDC-03

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

D.1.5 Visible Emissions Notations

- (a) Daily visible emission notations of the scrubber stack exhausts (stacks SV# WDC-1, WDC-2, WDC-4, 03-WDC-01, 03-WDC-02, and 03-WDC-03) shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.6 Parametric Monitoring

The Permittee shall record the pressure drop across each of the scrubbers used to control emissions from shotblasting lines at least once per day when the associated shotblasting lines are in operation. The pressure drop range and the minimum flow rate of the scrubber fluid for each scrubber are listed in the table below. When for any one reading, the pressure drop across

the dust collector is outside the normal range, established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Scrubber ID	Process ID	Pressure Drop ranges (inches of water)	Minimum Flow Rate (gallons/min)
WDC-4	SBS-6	7.5-10.5	90
WDC-1	SBS-7 SBS-11	8-15	150
WDC-2	SBS-9 SBS-10	8-15	150
03-WDC-01	03-SBS-01 03-SBS-04	8-15	150
03-WDC-02	03-SBS-02 03-SBS-03	8-15	150
03-WDC-03	03-SBS-06	7.5-10.5	90

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

D.1.7 Scrubber Detection

Failed units and the associated process shall be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.8 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.5, the Permittee shall maintain records of the Permittee shall maintain daily records of the visible emissions notations of the dust collectors stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation (i.e. the process did not operate that day).
- (b) To document the compliance status with Condition D.1.6, the Permittee shall maintain the daily records of the pressure drop across the dust collectors controlling the shot blasters. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g., the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, contains the Permittee's obligation with regard to the records required by this condition.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

- (b) Seven (7) natural gas-fired aluminum melting furnaces, using propane as back-up fuel, consisting of the following:
- (1) One (1) aluminum melting furnace, identified as MF-5, constructed in 1989, with a maximum throughput rate of 10,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 14.4 MMBtu/hr, and exhausting through stack SV# MF-5.
 - (2) One (1) aluminum melting furnace, identified as MF-6, constructed in 1994, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 19.3 MMBtu/hr, and exhausting through stack SV# MF-6.
 - (3) One (1) aluminum melting furnace, identified as MF-1S, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 15.0 MMBtu/hr, and exhausting through stack SV# MF-1S.
 - (4) One (1) aluminum melting furnace, identified as MF-2M, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 23.8 MMBtu/hr, and exhausting through stack SV# MF-2M.
 - (5) One (1) aluminum melting furnace, identified as MF-3N, constructed in 2000, with a maximum throughput rate of 7,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 13.4 MMBtu/hr, and exhausting through stack SV# MF-3N.
 - (6) One (1) aluminum melting furnace, identified as MF-1, constructed in 2005, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 18 MMBtu/hr, and exhausting through stack SV# MF-1.
 - (7) One (1) aluminum melting furnace, identified as MF-7, approved for construction in 2007, with a maximum throughput rate of 3,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 3.074 MMBtu/hr, and exhausting through stack SV# MF-7.

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

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

D.2.1 FESOP Limits [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4 (FESOP), the amount of propane and propane equivalents used in all the melting furnaces (MF-1, MF-5, MF-6, MF-1S, MF-2M, MF-3N, and MF-7) shall not exceed 7,400 kilogallons per twelve (12) consecutive month period with compliance determined at the end of each month and:

- (a) NO_x emissions shall not exceed 13 lbs per kilogallon.

- (b) CO emissions shall not exceed 7.5 lbs per kilogallon.
- (c) CO₂e emission from these melting furnaces shall not exceed 47,298 tons per 12 consecutive month period with compliance determined at the end of the month.

For the purpose of determining compliance, every million cubic feet (MMCF) of natural gas used shall be equivalent to 11.2 kilogallons of propane.

Compliance with these limits, combined with the potential to emit NO_x and CO emissions from all other existing units at this source, shall limit the source-wide total potential to emit of NO_x and CO to less than 100 tons per 12 consecutive month period, each and shall render 327 IAC 2-7 (Part 70 Program), not applicable.

Compliance with these limits, combined with the limited potential to emit CO₂e emissions from all other existing units at this source, shall limit the source-wide total potential to emit of CO₂e to less than 100,000 tons per 12 consecutive month period, and shall render 327 IAC 2-7 (Part 70 Program) and 326 IAC 2-2, not applicable.

D.2.2 Material Usage [40 CFR 63, Subpart RRR]

The Permittee shall only melt clean aluminum ingots, or internal scrap in the aluminum foundry as defined under 40 CFR 63.1503. Therefore, the requirements of 40 CFR 63, Subpart RRR do not apply.

Compliance Determination Requirements

D.2.3 CO₂e Compliance [326 IAC 2-8-4]

In order to comply with Condition D.2.1, the Permittee shall determine the CO₂e emissions in accordance to the following formulas:

CO₂ Equivalent (CO₂e) Emission Calculations

$$\text{CO}_2 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{CH}_4 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{CO}_2\text{e} = \sum[(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;
CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;
N₂O = tons of N₂O emissions for previous 12 consecutive month period;
CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;
G = million cubic feet of natural gas used in previous 12 months;
P = gallons of Propane used in previous 12 months;

Emission Factors - CO₂:

X_G = 120,000 pounds per million cubic feet of natural gas;
X_P = 12,500 x 10⁻³ pounds per gallon of Propane;

Emission Factors - CH₄:

$X_G = 2.3$ pounds per million cubic feet of natural gas;

$X_P = 0.0002$ pounds per gallon of Propane;

Emission Factors - N₂O:

$X_G = 2.20$ pounds per million cubic feet of natural gas;

$X_O = 0.0009$ pounds per gallon of Propane;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1

Methane (CH₄) = 21

Nitrous oxide (N₂O) = 310

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.4 Record Keeping Requirements

- (a) To document the compliance status with the Condition D.2.1, the Permittee shall maintain monthly records of the total natural gas and propane usages for the melting furnaces.
- (b) Section C - General Record Keeping Requirements, contains the Permittee's obligation with regard to the records required by this condition.

D.2.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

- (c) One (1) aluminum scrap handling process, with a maximum throughput rate of 12,500 pounds of trimmed aluminum parts per hour.

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

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

D.3.1 PM, PM2.5 and PM10 Emissions [326 IAC 2-2] [326 IAC 2-8-4]

- (a) Pursuant to 326 IAC 2-8-4 (FESOP), the PM10 emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr.

- (b) Pursuant to 326 IAC 2-8-4 (FESOP), the PM2.5 emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr.

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD), not applicable.

- (c) In order to render 326 IAC 2-2 not applicable, the PM emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr.

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

D.3.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions from the aluminum scrap handling process shall not exceed 14.0 pounds per hour when operating at a process weight rate of 12,500 pounds per hour.

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

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

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

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

- (d) One (1) aluminum die casting process, constructed in 1986, with a maximum throughput rate of 27.5 tons of parts per hour.

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

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

There are no specifically applicable requirements for the unit at this section.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)] Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (1) One hundred and four (104) natural gas-fired combustion units in Plant 1, with a total heat capacity of 104.36 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) Three (3) pre-heat stations, each with a maximum heat input of 0.008 MMBtu/hr.
 - (B) One (1) make-up air unit, with a maximum heat input of 1.02 MMBtu/hr.
 - (C) Three (3) make-up air units, each with a maximum heat input of 1.972 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 2.066 MMBtu/hr.
 - (E) Four (4) make-up air units, each with a maximum heat input of 2.137 MMBtu/hr.
 - (F) Sixteen (16) make-up air units, each with a maximum heat input of 2.1875 MMBtu/hr.
 - (G) Two (2) make-up air units, each with a maximum heat input of 2.324 MMBtu/hr.
 - (H) One (1) make-up air unit, with a maximum heat input of 2.5 MMBtu/hr.
 - (I) Two (2) make-up air units, each with a maximum heat input of 3.052 MMBtu/hr.
 - (J) Six (6) make-up air units, each with a maximum heat input of 3.327 MMBtu/hr.
 - (K) One (1) make-up air unit, with a maximum heat input of 4.1 MMBtu/hr.
 - (L) One (1) make-up air unit, with a maximum heat input of 5 MMBtu/hr.
 - (M) Fifty-one (51) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
 - (N) Ten (10) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (O) One (1) office heater, with a maximum heat input of 0.215 MMBtu/hr.
 - (P) One (1) office heater, with a maximum heat input of 0.16 MMBtu/hr.
 - (2) Fourteen (14) natural gas-fired combustion units in Plant 2, with a total heat capacity of 11.12 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) One (1) make-up air unit, with a maximum heat input of 0.75 MMBtu/hr.
 - (B) One (1) air curtain, with a maximum heat input of 3.5 MMBtu/hr.
 - (C) One (1) air curtain, with a maximum heat input of 3.0 MMBtu/hr.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)] Insignificant Activities

- (D) One (1) air curtain, with a maximum heat input of 2.203 MMBtu/hr.
- (E) Nine (9) space unit heaters, each with a maximum heat input of 0.2 MMBtu/hr.
- (F) One (1) office heater, with a maximum heater input of 0.0514 MMBtu/hr.
- (3) Eighty-eight (88) natural gas-fired combustion units in Plant 3 (with no back-up fuel), with a total heat capacity of 117.12 MMBtu/hr, including the following:
 - (A) Two (2) pre-heat stations, each with a maximum heat input of 2.0 MMBtu/hr.
 - (B) Six (6) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (C) Eight (8) door heaters, each with a maximum heat input of 0.814 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 0.751 MMBtu/hr.
 - (E) Two (2) make-up air units, each with a maximum heat input of 1.503 MMBtu/hr.
 - (F) Six (6) make-up air units, each with a maximum heat input of 1.784 MMBtu/hr.
 - (G) One (1) make-up air unit, with a maximum heat input of 1.972 MMBtu/hr.
 - (H) Three (3) make-up air units, each with a maximum heat input of 2.536 MMBtu/hr.
 - (I) Four (4) make-up air units, each with a maximum heat input of 3.287 MMBtu/hr.
 - (J) Sixteen (16) make-up air units, each with a maximum heat input of 3.945 MMBtu/hr.
 - (K) Thirty-nine (39) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
- (4) Seven (7) natural gas-fired combustion units in Plant 4, with a total heat capacity of 1.5 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) Five (5) unit heaters, each with a maximum heat input of 0.216 MMBtu/hr.
 - (B) One (1) door heater, with a maximum heat input of 0.39 MMBtu/hr.
 - (C) One (1) AC/heater, with a maximum heat input of 0.031 MMBtu/hr.

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

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

D.5.1 FESOP Limits [326 IAC 2-8-4]

- (a) Pursuant to 326 IAC 2-8-4 (FESOP), the amount of natural gas and natural gas equivalents used in all the insignificant combustion units at Plants 1, 2, 3, and 4 shall not exceed 560 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of

each month and:

1. NOx emissions shall not exceed 100 lb per MMCF.
2. CO emissions shall not exceed 84 lb per MMCF.
3. CO₂e emission from these combustion units in Plants 1, 2, 3, and 4 shall not exceed 33,804 tons per 12 consecutive month period with compliance determined at the end of the month.

For the purpose of determining the compliance, every 1,000 gallons of propane used shall be equivalent to 7.69 MMCF of natural gas.

Compliance with these limits, combined with the potential to emit NOx and CO emissions from all other existing units at this source, shall limit the source-wide total potential to emit of NOx and CO to less than 100 tons per 12 consecutive month period, each and shall render 327 IAC 2-7 (Part 70 Program), not applicable.

Compliance with these limits, combined with the limited potential to emit CO₂e emissions from all other existing units at this source, shall limit the source-wide total potential to emit of CO₂e to less than 100,000 tons per 12 consecutive month period, and shall render 327 IAC 2-7 (Part 70 Program) and 326 IAC 2-2, not applicable.

Compliance Determination Requirement

D.5.2 CO₂e Compliance [326 IAC 2-8-4]

In order to comply with tCondition D.5.1, the Permittee shall determine the CO₂e emission in accordance with the following formulas:

CO₂ Equivalent (CO₂e) Emission Calculations

$$\text{CO}_2 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{CH}_4 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$\text{CO}_2\text{e} = \sum[(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O} \text{ GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;

CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;

N₂O = tons of N₂O emissions for previous 12 consecutive month period;

CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;

G = million cubic feet of natural gas used in previous 12 months;

P = gallons of Propane used in previous 12 months;

Emission Factors - CO₂:

X_G = 120,000 pounds per million cubic feet of natural gas;

X_P = 12,500 x 10⁻³ pounds per gallon of Propane;

Emission Factors - CH₄:

X_G = 2.3 pounds per million cubic feet of natural gas;

$X_P = 0.0002$ pounds per gallon of Propane;

Emission Factors - N₂O:

$X_G = 2.20$ pounds per million cubic feet of natural gas;

$X_O = 0.0009$ pounds per gallon of Propane;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1

Methane (CH₄) = 21

Nitrous oxide (N₂O) = 310

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.5.3 Record Keeping Requirements

- (a) To document the compliance status with Condition D.5.1, the Permittee shall maintain monthly records of the natural gas and propane usages for the insignificant combustion units in plants 1, 2 and 4, and the natural gas usage for the insignificant combustion units in plant 3.
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

D.5.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.5.1 shall be submitted, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)] Insignificant Activities

- (b) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (d) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
- (e) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (f) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (g) Cleaners and solvents having a vapor pressure equal to or less than 2kPa (15mm Hg or 0.3 psi) measured at 38 degrees C (100°F) or a vapor pressure equal to or less than 0.7 kPa (5mm Hg, or 0.1 psi) measured at 20°C (68°F), the use of which for all cleaners and solvents combined does not exceed 145 gallons per twelve (12) consecutive month period.
- (h) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (i) Quenching operations used with heat treating processes.
- (j) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (k) Paved and unpaved roads and parking lots with public access.
- (l) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (m) Stationary fire pumps.
- (n) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

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

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

D.6.1 326 IAC 8-3-2 (Cold Cleaning Operations)

Any degreaser using VOC containing solvents is considered a cold cleaning operation. The cold cleaning operations constructed after January 1, 1980, the Permittee shall:

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

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

D.6.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions from each of the brazing, cutting, soldering and welding processes shall not exceed the pounds per hour emission rate calculated based on the following equation:

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

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

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

Source Name: Ryobi Die Casting
Source Address: 800 West Mausoleum Road, Shelbyville, Indiana 46176
FESOP Permit No.: F145-30081-00031

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: Ryobi Die Casting
Source Address: 800 West Mausoleum Road, Shelbyville, Indiana 46176
FESOP Permit No.: F145-30081-00031

This form consists of 2 pages

Page 1 of 2

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

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: Ryobi Die Casting
Source Address: 800 West Mausoleum Road, Shelbyville, Indiana 46176
FESOP Permit No.: F145-30081-00031
Facility: Melt Furnaces MF-1, MF-5, MF-6, MF-1S, MF-2M, MF-3N, and MF-7
Parameter: Total Propane and Propane Equivalent Usage
Limit: Less than 7,400 kilogallons per twelve (12) consecutive months with compliance determined at the end of each month.
1 MMCF natural gas usage = 11.2 kilogallons propane usage

YEAR: _____

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

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

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

FESOP Quarterly Report

Source Name: Ryobi Die Casting
Source Address: 800 West Mausoleum Road, Shelbyville, Indiana 46176
FESOP Permit No.: F145-30081-00031
Facility: Insignificant Combustion Units in Plants 1, 2, and 3
Parameter: Total Natural Gas and Natural Gas Equivalent Usage
Limit: Less than 560 MMCF per twelve (12) consecutive months with compliance determined at the end of each month.
1,000 gallons propane usage = 7.69 MMCF natural gas usage

YEAR: _____

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

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

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

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

Source Name: Ryobi Die Casting
 Source Address: 800 West Mausoleum Road, Shelbyville, Indiana 46176
 FESOP Permit No.: F145-30081-00031

Months: _____ **to** _____ **Year:** _____

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

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

Source Background and Description

Source Name:	Ryobi Die Casting (USA), Inc.
Source Location:	800 West Mausoleum Road, Shelbyville, Indiana 46176
County:	Shelby County
SIC Code:	3363 (Aluminum Die Castings)
Permit Renewal No.:	F145-30081-00031
Permit Reviewer:	Swarna Prabha

On June 20, 2011, the Office of Air Quality (OAQ) had a notice published in the Shelbyville News, Shelbyville, Indiana, stating that Ryobi Die Casting (USA), Inc. had applied for a Federally Enforceable State Operating Permit Renewal to operate an aluminum die-casting plant. The notice also stated that the OAQ proposed to issue a FESOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

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

Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit 100,000 tons per year or more of CO₂ equivalent emissions (CO₂e). Therefore, CO₂e emissions have been calculated for this source. Based on the calculations, the potential to emit (PTE) greenhouse gases from the entire source is equal to or greater than 100,000 tons of CO₂e per year (see ATSD Appendix A for detailed calculations). This source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a Federally Enforceable State Operating Permit (FESOP) Renewal because the source has already limited the usage of propane fuel to 7,400 Kgal/yr for melting furnaces, and natural gas usage to 560 MMCF/yr for all insignificant combustion units, therefore CO₂e emissions are less than the Title V subject to regulation threshold of 100,000 tons per year. (See ATSD Appendix A)

1. The Source Operating condition C.2 is updated to include the source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

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

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

- (a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) **and greenhouse gases (GHGs)**, from the entire source shall be limited to less than

one hundred (100) tons per twelve (12) consecutive month period.

...

- (4) **The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.**

2. Since this source uses natural gas and back up fuel as propane in the melting furnaces, and source-wide CO₂e emissions are greater than 100,000 tons per year of CO₂e, the following compliance monitoring equations are added to the permit:

D.2.1 FESOP Limits [326 IAC 2-8-4]

...

- (c) **CO₂e emission from these melting furnaces shall not exceed 47,298 tons per 12 consecutive month period with compliance determined at the end of the month.**

...

Compliance with these limits, combined with the limited potential to emit CO₂e emissions from all other existing units at this source, shall limit the source-wide total potential to emit of CO₂e to less than 100,000 tons per 12 consecutive month period, and shall render 327 IAC 2-7 (Part 70 Program) and 326 IAC 2-2, not applicable.

Compliance Determination Requirements

D.2.3 CO₂e Compliance [326 IAC 2-8-4]

In order to comply with Condition D.2.1, the Permittee shall determine the CO₂e emissions in accordance to the following formulas:

CO₂ Equivalent (CO₂e) Emission Calculations

$$\text{CO}_2 = \frac{[\text{G}(\text{X}_G) + \text{P}(\text{X}_P)]}{2,000}$$

$$\text{CH}_4 = \frac{[\text{G}(\text{X}_G) + \text{P}(\text{X}_P)]}{2,000}$$

$$\text{N}_2\text{O} = \frac{[\text{G}(\text{X}_G) + \text{P}(\text{X}_P)]}{2,000}$$

$$\text{CO}_2\text{e} = \sum[(\text{CO}_2 \times \text{CO}_2 \text{ GWP}) + (\text{CH}_4 \times \text{CH}_4 \text{ GWP}) + (\text{N}_2\text{O} \times \text{N}_2\text{O GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;

CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;

N₂O = tons of N₂O emissions for previous 12 consecutive month period;

CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;

G = million cubic feet of natural gas used in previous 12 months;

P = gallons of Propane used in previous 12 months;

Emission Factors - CO₂:

X_G = 120,000 pounds per million cubic feet of natural gas;

X_P = 12,500 x 10⁻³ pounds per gallon of Propane;

Emission Factors - CH₄:

X_G = 2.3 pounds per million cubic feet of natural gas;

$X_P = 0.0002$ pounds per gallon of Propane;

Emission Factors - N₂O:

$X_G = 2.20$ pounds per million cubic feet of natural gas;

$X_O = 0.0009$ pounds per gallon of Propane;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1

Methane (CH₄) = 21

Nitrous oxide (N₂O) = 310

3. The combustion units at Plants 1, 2, 3, and 4 are limited to 560 million cubic feet (MMCF) and its equivalents of fuel, the Permittee shall limit fuel usage according to the following formulas and the following compliance monitoring equations are added to the permit:

D.5.1 FESOP Limits [326 IAC 2-8-4]

...

3. CO₂e emission from these combustion units in Plants 1, 2, 3, and 4 shall not exceed 33,804 tons per 12 consecutive month period with compliance determined at the end of the month.

...

Compliance with these limits, combined with the limited potential to emit CO₂e emissions from all other existing units at this source, shall limit the source-wide total potential to emit of CO₂e to less than 100,000 tons per 12 consecutive month period, and shall render 327 IAC 2-7 (Part 70 Program) and 326 IAC 2-2, not applicable.

Compliance Determination Requirements

D.5.2 CO₂e Compliance [326 IAC 2-8-4]

In order to comply with Condition D.5.1, the Permittee shall determine the CO₂e emission in accordance with the following formulas:

CO₂ Equivalent (CO₂e) Emission Calculations

$$CO_2 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$CH_4 = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$N_2O = \frac{[G(X_G) + P(X_P)]}{2,000}$$

$$CO_2e = \sum[(CO_2 \times CO_2 \text{ GWP}) + (CH_4 \times CH_4 \text{ GWP}) + (N_2O \times N_2O \text{ GWP})]$$

Where:

CO₂ = tons of CO₂ emissions for previous 12 consecutive month period;

CH₄ = tons of CH₄ emissions for previous 12 consecutive month period;

N₂O = tons of N₂O emissions for previous 12 consecutive month period;

CO₂e = tons of CO₂e equivalent emissions for previous 12 consecutive month period;

G = million cubic feet of natural gas used in previous 12 months;

P = gallons of Propane used in previous 12 months;

Emission Factors - CO₂:

X_G = 120,000 pounds per million cubic feet of natural gas;
X_P = 12,500 x 10⁻³ pounds per gallon of Propane;

Emission Factors - CH₄:

X_G = 2.3 pounds per million cubic feet of natural gas;
X_P = 0.0002 pounds per gallon of Propane;

Emission Factors - N₂O:

X_G = 2.20 pounds per million cubic feet of natural gas;
X_O = 0.0009 pounds per gallon of Propane;

Greenhouse Warming Potentials (GWP)

Carbon dioxide (CO₂) = 1
Methane (CH₄) = 21
Nitrous oxide (N₂O) = 310

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Potential to Emit After Issuance

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)									
Ten (10) Shotblasting Lines SBS-6, SBS-7, SBS-9, SBS-10, SBS-11, 03-SBS-01 through 03-SBS-04 and 03-SBS-06	76.3**	76.3**	76.3**	-	-	-	-	-	-	-
*** Seven (7) natural gas-fired Aluminum Melting Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1, MF-7	1.85	3.56	3.56	5.55	48.1	3.7	39.4	47,298.84	0.88	0.84 (Hexane)
One (1) Al Scrap Handling Process	16.4	16.4	16.4	-	-	-	-	-	-	-
one (1) Die Casting Process	-	-	-	2.41	1.20	16.9	-	-	-	-
Insignificant Activities										
***Insignificant Combustion Units [Plants (1, 2, 3), and 4]	1.08	2.13	2.13	3.23	28.0	2.15	23.5	33,804.48	0.53	0.5 (Hexane)
Other Insignificant Units	< 1.0	< 1.0	< 1.0	-	-	<1.0	-	-	-	-
Total PTE of Entire Source	96.65	99.41	99.41	11.19	77.3	< 23.72	< 62.9	81,102.32	1.41	0.89
Title V Major Source Thresholds	NA	100	100	100	100	100	100	PM	PM10*	PM2.5
PSD Major Source Thresholds	250	250	250	250	250	250	250	100,000	NA	NA

negl. = negligible

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

"-" pollutant not emitted from the facility.

** Limited emissions based on the Permit No. F145-15571-00031, issued on October 2, 2006.

***Emissions are based on the Administrative Amendment No: 145-24767-00031 amended to FESOP Permit No.: F145-15571-000331, issued on June 26, 2007. These units use Propane fuel as a back up, therefore limited emissions are based on the limited amount of fuel usage, and are worst case scenario between burning natural gas and propane.

****Emission factors for Propane are updated from AP-42, Chapter 1.5-1 (AP-42, 07/2008). The emission factors for PM, PM10, VOC, NOx and CO are revised, therefore the emission limits are different based on the propane usage limit. See TSD Appendix A for limits.

*****The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is limited to less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.

NOTE: The source has already limited the usage of propane fuel to 7,400 Kgal/yr for melting furnaces, and natural gas usage to 560 MMCF/yr for all insignificant combustion units, therefore the potential to emit (PTE) (as defined in 326 IAC

2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.

IDEM Contact

- (a) Questions regarding this proposed MSOP can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5376 or toll free at 1-800-451-6027 extension 4-5376.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description

Source Name:	Ryobi Die Casting (USA), Inc.
Source Location:	800 West Mausoleum Road, Shelbyville, Indiana 46176
County:	Shelby County
SIC Code:	3363
Permit Renewal No.:	F145-30081-00031
Permit Reviewer:	Swarna Prabha

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Ryobi Die Casting (USA), Inc. relating to the operation of an aluminum die-casting plant. There are no additional emission units added or removed from this source during this renewal. The furnaces melt clean aluminum ingots and clean casting scrap, and is not primarily engaged in the metal recovery process.

Source Definition

The source definition was determined in permit No. 145-15571-00031, issued on October 02, 2006. This aluminum die casting company consists of four (4) plants which represent four physical buildings. Since these four (4) plants are located on the same property and are owned by one (1) company, IDEM, OAQ determined that these four (4) plants are still considered one (1) source in this FESOP renewal.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) Ten (10) shotblasting lines, constructed after 1986, consisting of the following:
 - (1) One (1) shotblasting line, identified as SBS-6, with maximum process rate of 3,239 pounds of parts per hour, controlled by scrubber WDC-4, and exhausting through stack SV# WDC-4.
 - (2) One (1) shotblasting line, identified as SBS-7, with maximum process rate of 1900 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.
 - (3) Two (2) shotblasting lines, identified as SBS-9 and SBS-10, with maximum process rates of 1,640 and 4,000 pounds of parts per hour respectively, controlled by scrubber WDC-2, and exhausting through stack SV# WDC-2.
 - (4) Two (2) shotblasting lines, identified as 03-SBS-01 and 03-SBS-04, with maximum process rates of 5,670 and 2,403 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-01, and exhausting through stack SV# 03-WDC-01.
 - (5) Two (2) shotblasting lines, identified as 03-SBS-02 and 03-SBS-03, with maximum process rates of 1,280 and 1,920 pounds of parts per hour respectively, both controlled by scrubber 03-WDC-02, and exhausting through stack SV# 03-WDC-02.

- (6) One (1) shotblasting line, identified as 03-SBS-06, with a maximum process rate of 3,008 pounds of parts per hour, controlled by scrubber 03-WDC-03, and exhausting through stack SV# 03-WDC-03.
 - (7) One (1) shotblasting line, identified as SBS-11 with maximum process rate of 1,640 pounds of parts per hour, controlled by scrubber WDC-1, and exhausting through stack SV# WDC-1.
- (b) Seven (7) natural gas-fired aluminum melting furnaces, using propane as back-up fuel, consisting of the following:
- (1) One (1) aluminum melting furnace, identified as MF-5, constructed in 1989, with a maximum throughput rate of 10,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 14.4 MMBtu/hr, and exhausting through stack SV# MF-5.
 - (2) One (1) aluminum melting furnace, identified as MF-6, constructed in 1994, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 19.3 MMBtu/hr, and exhausting through stack SV# MF-6.
 - (3) One (1) aluminum melting furnace, identified as MF-1S, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 15.0 MMBtu/hr, and exhausting through stack SV# MF-1S.
 - (4) One (1) aluminum melting furnace, identified as MF-2M, constructed in 1998, with a maximum throughput rate of 9,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 23.8 MMBtu/hr, and exhausting through stack SV# MF-2M.
 - (5) One (1) aluminum melting furnace, identified as MF-3N, constructed in 2000, with a maximum throughput rate of 7,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 13.4 MMBtu/hr, and exhausting through stack SV# MF-3N.
 - (6) One (1) aluminum melting furnace, identified as MF-1, constructed in 2005, with a maximum throughput rate of 15,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat input capacity of 18 MMBtu/hr, and exhausting through stack SV# MF-1.
 - (7) One (1) aluminum melting furnace, identified as MF-7, approved for construction in 2007, with a maximum throughput rate of 3,000 pounds of aluminum ingots and internally generated aluminum scrap per hour, with a maximum heat capacity of 3.074 MMBtu/hr, and exhausting through stack SV# MF-7.
- (c) One (1) aluminum scrap handling process, with a maximum throughput rate of 12,500 pounds of trimmed aluminum parts per hour.
- (d) One (1) aluminum die casting process, constructed in 1986, with a maximum throughput rate of 27.5 tons of parts per hour.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

There are no new emission units or pollution control equipment being added during this renewal period.

Emission Units and Pollution Control Equipment Removed From the Source

No existing emission unit has been removed from this source.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour:
 - (1) One hundred and four (104) natural gas-fired combustion units in Plant 1, with a total heat capacity of 104.36 MMBtu/hr, using propane as back-up fuel, including the following:
 - (A) Three (3) pre-heat stations, each with a maximum heat input of 0.008 MMBtu/hr.
 - (B) One (1) make-up air unit, with a maximum heat input of 1.02 MMBtu/hr.
 - (C) Three (3) make-up air units, each with a maximum heat input of 1.972 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 2.066 MMBtu/hr.
 - (E) Four (4) make-up air units, each with a maximum heat input of 2.137 MMBtu/hr.
 - (F) Sixteen (16) make-up air units, each with a maximum heat input of 2.1875 MMBtu/hr.
 - (G) Two (2) make-up air units, each with a maximum heat input of 2.324 MMBtu/hr.
 - (H) One (1) make-up air unit, with a maximum heat input of 2.5 MMBtu/hr.
 - (I) Two (2) make-up air units, each with a maximum heat input of 3.052 MMBtu/hr.
 - (J) Six (6) make-up air units, each with a maximum heat input of 3.327 MMBtu/hr.
 - (K) One (1) make-up air unit, with a maximum heat input of 4.1 MMBtu/hr.
 - (L) One (1) make-up air unit, with a maximum heat input of 5 MMBtu/hr.
 - (M) Fifty-one (51) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
 - (N) Ten (10) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (O) One (1) office heater, with a maximum heat input of 0.215 MMBtu/hr.
 - (P) One (1) office heater, with a maximum heat input of 0.16 MMBtu/hr.
 - (2) Fourteen (14) natural gas-fired combustion units in Plant 2, with a total heat capacity of 11.12 MMBtu/hr, using propane as back-up fuel, including the following:

- (A) One (1) make-up air unit, with a maximum heat input of 0.75 MMBtu/hr.
 - (B) One (1) air curtain, with a maximum heat input of 3.5 MMBtu/hr.
 - (C) One (1) air curtain, with a maximum heat input of 3.0 MMBtu/hr.
 - (D) One (1) air curtain, with a maximum heat input of 2.203 MMBtu/hr.
 - (E) Nine (9) space unit heaters, each with a maximum heat input of 0.2 MMBtu/hr.
 - (F) One (1) office heater, with a maximum heater input of 0.0514 MMBtu/hr.
- (3) Eighty-eight (88) natural gas-fired combustion units in Plant 3 (with no back-up fuel), with a total heat capacity of 117.12 MMBtu/hr, including the following:
- (A) Two (2) pre-heat stations, each with a maximum heat input of 2.0 MMBtu/hr.
 - (B) Six (6) door heaters, each with a maximum heat input of 0.4 MMBtu/hr.
 - (C) Eight (8) door heaters, each with a maximum heat input of 0.814 MMBtu/hr.
 - (D) One (1) make-up air unit, with a maximum heat input of 0.751 MMBtu/hr.
 - (E) Two (2) make-up air units, each with a maximum heat input of 1.503 MMBtu/hr.
 - (F) Six (6) make-up air units, each with a maximum heat input of 1.784 MMBtu/hr.
 - (G) One (1) make-up air unit, with a maximum heat input of 1.972 MMBtu/hr.
 - (H) Three (3) make-up air units, each with a maximum heat input of 2.536 MMBtu/hr.
 - (I) Four (4) make-up air units, each with a maximum heat input of 3.287 MMBtu/hr.
 - (J) Sixteen (16) make-up air units, each with a maximum heat input of 3.945 MMBtu/hr.
 - (K) Thirty-nine (39) space unit heaters, each with a maximum heat input of 0.1 MMBtu/hr.
- (4) Seven (7) natural gas-fired combustion units in Plant 4, with a total heat capacity of 1.5 MMBtu/hr, using propane as back-up fuel, including the following:
- (A) Five (5) unit heaters, each with a maximum heat input of 0.216 MMBtu/hr.
 - (B) One (1) door heater, with a maximum heat input of 0.39 MMBtu/hr.
 - (C) One (1) AC/heater, with a maximum heat input of 0.031 MMBtu/hr.
- (b) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (c) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (d) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.

- (e) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (f) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C).
- (g) Cleaners and solvents having a vapor pressure equal to or less than 2kPa (15mm Hg or 0.3 psi) measured at 38 degrees C (100°F) or a vapor pressure equal to or less than 0.7 kPa (5mm Hg, or 0.1 psi) measured at 20°C (68°F), the use of which for all cleaners and solvents combined does not exceed 145 gallons per twelve (12) consecutive month period.
- (h) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (i) Quenching operations used with heat treating processes.
- (j) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (k) Paved and unpaved roads and parking lots with public access.
- (l) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (m) Stationary fire pumps.
- (n) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.

Existing Approvals

Since the issuance of the FESOP (145-15571-00031) on October 02, 2006, the source has been operating under the following additional approvals:

- (a) Administrative Amendment No. 145-24767-00031 issued on June 26, 2007 and
- (b) Second Administrative Amendment No. 145-25453-00031 issued on December 17, 2007.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit. All conditions from the previous approvals were incorporated by this FESOP.

The existing source consists of cold cleaning and degreasing operation, therefore conditions related to the cold cleaning operations are added during this renewal.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Shelby County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective October 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Shelby County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

PM2.5

(b) Shelby County has been classified as attainment for PM_{2.5}. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants

Shelby County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

[Note: This source only uses aluminum ingots and is not primarily engaged in the metal recovery process. Therefore, this source is not considered a "secondary metal production plant" and is not in 1 of 28 source categories, as defined in 326 IAC 2-2-1(y), for the PSD regulations.]

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	Greater than 250
PM ₁₀	Greater than 250
PM _{2.5}	Greater than 250
SO ₂	19.58
VOC	26.08
CO	125.48
NO _x	225.39
Single HAP	Less than 10
Total HAP	Greater than 25

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀, PM_{2.5}, CO, and NO_x are greater than or equal to 100 tons per year. However, the Permittee has agreed to limit the source's PM₁₀, PM_{2.5}, CO, and NO_x emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) 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 a combination of HAPs is less than twenty-five (25) tons per year.

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit After Issuance

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)								
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Ten (10) Shotblasting Lines SBS-6, SBS-7, SBS-9, SBS-10, SBS-11, 03-SBS-01 through 03-SBS-04 and 03-SBS-06	76.3**	76.3**	76.3**	-	-	-	-	-	-
*** Seven (7) natural gas-fired Aluminum Melting Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1, MF-7	1.85	3.56	3.56	5.55	48.1	3.7	39.4	0.88	0.84 (Hexane)
One (1) Al Scrap Handling Process	16.4	16.4	16.4	-	-	-	-	-	-
one (1) Die Casting Process	-	-	-	2.41	1.20	16.9	-	-	-
Insignificant Activities									
***Insignificant Combustion Units [Plants (1, 2, 3), and 4]	1.08	2.13	2.13	3.23	28.0	2.15	23.5	0.53	0.5 (Hexane)
Other Insignificant Units	< 1.0	< 1.0	< 1.0	-	-	<1.0	-	-	-
Total PTE of Entire Source	96.65	99.41	99.41	11.19	77.30	< 23.72	< 62.9	1.41	0.89
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA

negl. = negligible

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

** Limited emissions based on the Permit No. F145-15571-00031, issued on October 2, 2006.

***Emissions are based on the Administrative Amendment No: 145-24767-00031 amended to FESOP Permit No.: F145-15571-000331, issued on June 26, 2007. These units use Propane fuel as a back up, therefore limited emissions are based on the limited amount of fuel usage, and are worst case scenario between burning natural gas and propane.

****Emission factors for Propane are updated from AP-42, Chapter 1.5-1 (AP-42, 07/2008). The emission factors for PM, PM10, VOC, NO_x and CO are revised, therefore the emission limits are different based on the propane usage limit. See TSD Appendix A for limits.

326 IAC 2-8-4 (FESOP)

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

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

The potential to emit PM10, PM2.5, NO_x and CO before control is each greater than 100 tons/yr from this source. The Permittee has accepted the following FESOP limits based on the permit No.: F145-15571-00031, issued on October 02, 2006, and Amendment F145-25453-00031, issued on December 17, 2007.

- (a) The PM10 and PM2.5 emissions from the shotblasters shall not exceed the emission limits listed in the table below:

Process ID	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
SBS-6	1.92	1.92
SBS-7	1.92	1.92
SBS-9	1.92	1.92
SBS-10	1.38	1.38
SBS-11	1.92	1.92
03-SBS-01	1.38	1.38
03-SBS-02	1.92	1.92
03-SBS-03	1.92	1.92
03-SBS-04	1.92	1.92
03-SBS-06	1.22	1.22

These emission limits are equivalent to a total of 76.3 tons/yr of PM10 emissions. The use of scrubbers for these shotblasters ensures compliance with the PM10 emission limits above (see Appendix A).

These emission limits are equivalent to a total of 76.3 tons/yr of PM2.5 emissions. The use of scrubbers for these shotblasters ensures compliance with the PM2.5 emission limits above (see Appendix A).

Compliance with these limits, combined with the potential to emit PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

- (b) The amount of propane and propane equivalents used in all the seven (7) melting furnaces (MF-1, MF-5, MF-6, MF-1S, MF-2M, and MF-3N and MF-7) shall not exceed 7,400 kilogallons per twelve (12) consecutive month period with compliance determined at

the end of each month. NO_x emissions shall not exceed 13 lb per kgal. CO emissions shall not exceed 7.5 lb per kgal.

For the purpose of determining compliance, every million cubic feet (MMCF) of natural gas used shall be equivalent to 11.2 kilogallons of propane. This is equivalent to 58.5 tons/yr of NO_x emissions and 39.4 tons/yr of CO emissions. See TSD Appendix A for revised NO_x and CO emissions from propane fuel and fuel equivalency.

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

- (c) The PM₁₀ emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr. This is equivalent to 16.4 tons/yr of PM₁₀ emissions. According to the emission calculations in Appendix A, the potential to emit PM₁₀ of this unit is in compliance with this limit.

The PM_{2.5} emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr. This is equivalent to 16.4 tons/yr of PM_{2.5} emissions. According to the emission calculations in Appendix A, the potential to emit PM_{2.5} of this unit is in compliance with this limit.

Compliance with these limits, combined with the potential to emit PM₁₀, and PM_{2.5} from all other emission units at this source, shall limit the source-wide total potential to emit of PM₁₀ and PM_{2.5} to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

- (d) The amount of natural gas and natural gas equivalents used in all the insignificant combustion units at Plants 1, 2, 3, and 4 shall not exceed 560 million cubic feet (MMCF) per twelve (12) consecutive month period with compliance determined at the end of each month. NO_x emissions shall not exceed 100 lb per MMCF. CO emissions shall not exceed 84 lb per MMCF.

For the purpose of determining compliance, every, 1,000 gallons of propane used shall be equivalent to 7.69 MMCF of natural gas. This is equivalent to 28.0 tons/yr of NO_x emissions and 23.5 tons/yr of CO emissions. See TSD Appendix A for fuel equivalency.

Compliance with these limits, combined with the potential to emit PM₁₀, PM_{2.5}, NO_x, and CO emissions from other existing units, the PM₁₀, NO_x, and CO emissions from the entire source are each limited to less than 100 tons/yr. Therefore, the requirements of 326 IAC 2-7 are not applicable.

Federal Rule Applicability

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

New Source Performance Standards (NSPS)

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

- (b) The source does not manufacture any aluminum at this plant. Therefore, this source is not subject to the New Source Performance Standards for primary aluminum reduction plants (40 CFR 60.190-195, Subpart S).

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) This source is not subject to the requirements of National Emission Standards for Hazardous Air Pollutants: Area Source standards for aluminum foundry, copper foundry, or other nonferrous metals, including all associated alloys, foundry as defined in §63.11556, Subpart ZZZZZZ, because the annual metal melt production for existing source as of February 9, 2009, is less than 600 tons per year (tpy) of aluminum, copper, and other nonferrous metals, including all associated alloys. In addition, the source does not use material containing aluminum foundry HAP, material containing copper foundry HAP, or material containing other nonferrous foundry HAP, as defined in §63.11556.
- (d) The source does not manufacture any aluminum at this plant. Therefore, this source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for primary aluminum reduction plants (40 CFR 63.840-859, Subpart LL).
- (e) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, 40 CFR Subpart RRR (63.1500 through 63.1519) because pursuant to 40 CFR 63.1500(d), the requirements of this subpart do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within the facility and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln. This source only melts clean charge aluminum ingots or internally generated aluminum scrap for the die casting processes, and does not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln, therefore, the requirements of this rule do not apply.
- (f) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries, 40 CFR Subpart EEEEE (63.7680 through 63.7762) because the requirements of this subpart applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. This source is not an Iron and Steel Foundry, and is therefore not subject to this rule.
- (g) This source is not subject to the requirements of National Emission Standards for Hazardous Air Pollutants for Secondary Nonferrous Metals Processing Area source, 40 CFR Subpart TTTTTT, as defined in § 63.11462, because this source does not process Secondary Nonferrous Metals.
- (h) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

State Rule Applicability - Entire Source

326 IAC 2-8-4 (FESOP)

FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.

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

This source was constructed in 1986 and modified in 1989, 1994, 1998, 2000, 2005 and 2007. This source is not one of the 28 source categories as defined in 326 IAC 2-2-1(gg)(1) and has a potential to emit greater than 250 tons per year. It is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of PM, PM10 and PM2.5 are limited to less than 250 tons per year. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

- (a) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from the shotblasting lines shall not exceed the emission limits listed in the table below:

Unit ID	PM Emission Limit (lbs/hr)
SBS-6	1.92
SBS-7	1.92
SBS-9	1.92
SBS-10	1.38
SBS-11	1.92
03-SBS-01	1.38
03-SBS-02	1.92
03-SBS-03	1.92
03-SBS-04	1.92
03-SBS-06	1.22

- (b) In order to render the requirements of 326 IAC 2-2 not applicable, the PM emissions from the aluminum scrap handling process shall not exceed 3.75 lbs/hr.

The PM10 and PM2.5 limits are already limited under 326 IAC 2-8 (see above).

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

The unlimited potential to emit of HAPs from the new unit is greater than ten (10) tons per year for any single HAP and greater than twenty-five (25) tons per year of a combination of HAPs. However, the source shall limit the potential to emit of HAPs from the new unit to less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the source is not subject to the requirements of 326 IAC 2-4.1. See PTE of the Entire Source After Issuance of the FESOP Section above.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

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

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

326 IAC 6-4 (Fugitive Dust Emissions Limitations)

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

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

The source is subject to 326 IAC 1-6-3.

326 IAC 6.5 PM Limitations Except Lake County

This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

State Rule Applicability – Shot Blasting Lines

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

Pursuant to 326 IAC 6-3-2, the particulate emissions from the shot blasting lines shall not exceed the pounds per hour limitation as listed below.

Process ID	Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
SBS-6	3,239	5.66
SBS-7	1,900	3.96
SBS-9	1,640	3.59
SBS-10	4,000	6.52
SBS-11	1,640	3.59
03-SBS-1	5,670	8.24
03-SBS-4	2,403	4.64
03-SBS-2	1280	3.04
03-SBS-3	1,920	3.99
03-SBS-6	3,008	5.39

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:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
 P = process weight rate in tons per hour

The related scrubbers shall be in operation at all times the shot blasting lines are in operation, in order to comply with this limit.

State Rule Applicability – Seven (7) Aluminum Melting Furnaces

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

The melting furnaces are used to melt only aluminum ingots. The emissions from these furnaces are only from the natural gas and propane combustion at these units. Therefore, these melting furnaces are not subject to the requirements of 326 IAC 6-3-2.

State Rule Applicability – Aluminum scrap handling Process

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions from the scrap handling process shall not exceed 14.0 pounds per hour when operating at a process weight rate of 12,500 pounds per hour.

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

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

State Rule Applicability – Die Casting process

326 IAC 8-1-6 (General Reduction Requirements for VOC Emissions)

The die casting process at this source was constructed after January 1, 1980. However, the potential VOC emissions from this process are less than 25 tons/yr. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

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

The die casting process at this source is a closed molding operation (injection molding operation). Therefore, there are no particulate emissions emitted from this process and the requirements of 326 IAC 6-3-2 are not applicable.

State Rule Applicability – Insignificant Activities

Natural Gas space heaters, Furnaces:

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The natural gas-fired space heaters, make-up air units, and furnaces, are each not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Pursuant to 326 IAC 6-3-1(b)(14), the source-wide space heaters, make-up air units are not subject to the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) because they each have the potential to emit particulate matter less than 0.551 pounds per hour each.

326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)

The space heaters, make-up air units, and furnaces are not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions of sulfur dioxide are less than twenty-five (25) tons per year and ten (10) pounds per hour each.

Brazing, cutting, soldering and welding processes

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions from each of the brazing, cutting, soldering and welding processes shall not exceed the pounds per hour emission rate calculated based on the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Cold Cleaning Degreasers

326 IAC 8-3-2 (Cold Cleaning Operations)

Any degreaser using VOC containing solvents is considered a cold cleaning operation. The cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;

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

Compliance Determination and Monitoring Requirements

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

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The testing and compliance monitoring requirements applicable to this source are as follows:

(a) Testing Requirements

The major pollutants from this source are the PM, PM10 and PM2.5 emissions from the shotblasting lines. These shot blasting lines are currently controlled by scrubbers. The permittee is required to perform daily monitoring of the pressure drop and the flow rate for the scrubbers, which ensures proper operation of the scrubbers. Therefore no stack testing is required for these units.

The existing ten shotblasting lines continue to have applicable compliance monitoring conditions as specified below:

Control ID Scrubber	Process ID	Parameter	Frequency	Range	Minimum flow Rate (gallons/min)
WDC-4	SBS-6	Water Pressure Drop	Daily	7.5-10.5	90
		Visible emissions		-	-
WDC-1	SBS-7	Water Pressure Drop	Daily	8-15	150
	SBC-11	Visible emissions		-	-
WDC-2	SBS-09	Water Pressure Drop	Daily	8-15	150

Control ID Scrubber	Process ID	Parameter	Frequency	Range	Minimum flow Rate (gallons/min)
	SBS-10	Visible emissions		-	-
03-WDC-01	03-SBS-01	Water Pressure Drop	Daily	8-15	150
	03-SBS-04	Visible emissions		-	-
03-WDC-02	03-SBS-02	Water Pressure Drop	Daily	8-15	150
	03-SBS-03	Visible emissions		-	-
03-WDC-03	03-SBS-06	Water Pressure Drop	Daily	7.5-10.5	90
		Visible emissions		-	-

These monitoring conditions are necessary because the scrubbers for the shotblasting lines must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8 (FESOP).

1. There continue to be no applicable compliance determination requirements for the existing natural gas-fired combustion units at this existing source.
2. There are no specifically applicable monitoring conditions for the melting furnaces, the aluminum scrap handling process, and the die casting process at this source.

Recommendation

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

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

An application for the purposes of this review was received on January 04, 2011.

Conclusion

The operation of this aluminum die-casting plant shall be subject to the conditions of the attached FESOP Renewal No. 145-30081-00031.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Swarna Prabha at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-5376) or toll free at 1-800-451-6027 extension 45376.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A Emission Summary

Company Name: Ryobi Die Casting (USA), Inc.
 Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
 FESOP Renewal No.: 145-30081-00031
 Reviewer: Swarna Prabha

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

Emission Unit	Potential Emissions (tons/yr)													
	PM	PM10	PM2.5	NOx	SOx	VOC	CO	****GHGs-CO2e	Xylene	Nickel	Toluene	Hexane	Formaldehyde	Total HAPs
(10) Shot Blast Lines-SBS-6, SBS-7, SBS-9, SBS-10, SBS-11	76317	53422	53422	-	-	-	-	-	-	-	-	-	-	-
Seven (7) Melt Furnaces (worst fuel) MF-5, MF-6, MF-1S, MF-2M, MF-3N,MF-1,MF-7	2.56	3.58	3.58	66.57	7.68	5.1	39.4	56,565.60	negl.	9.84E-04	1.59E-03	0.84	0.04	0.88
Scrap handling proces	16.4	16.4	16.4	-	-	-	-	-	-	-	-	-	-	-
Die Casting process	-	-	-	1.20	2.41	16.9	-	-	-	-	-	-	-	-
Insignificant units (plants 1,2,and 4) worst fuel	2.80	3.89	3.89	72.8	8.40	2.82	43.0	61,853.59	-	1.08E-03	1.74E-03	0.92	0.04	0.96
Insignificant unit Plant 3 (natural gas only)	0.97	3.9	3.9	51.3	0.31	2.82	43.1	61,932.91	negl.	1.23E-04	1.99E-04	0.11	4.39E-03	0.11
Other insignificant units	1.00	1.00	1.00	-	1.00	1.00	negl.	-	negl.	negl.	negl.	negl.	negl.	negl.
Total	76340.88	53450.79	53450.79	191.86	19.80	28.62	125.48	180,352.09	negl.	0.00	3.53E-03	1.87	7.80E-02	1.95

Emission Unit	Limited Emissions (tons/yr)													
	PM	PM10	PM2.5	NOx	SOx	VOC	CO	****GHGs-CO2e	Xylene	Nickel	Toluene	Hexane	Formaldehyde	Total HAPs
(10) Shot Blast Lines-SBS-6, SBS-7, SBS-9, SBS-10, SBS-11	76.3	76.3	76.3	-	-	-	-	-	-	-	-	-	-	-
***Seven (7) Melt Furnaces (worst fuel) MF-5, MF-6, MF-1S, MF-2M, MF-3N,MF-1,MF-7	1.85	3.56	3.56	48.1	5.55	3.70	39.4	47,297.84	negl.	9.84E-04	1.59E-03	0.84	0.04	0.88
Scrap handling proces	16.4	16.4	16.4	-	-	-	-	-	-	-	-	-	-	-
Die Casting process	-	-	-	1.20	2.41	16.9	-	-	-	-	-	-	-	#VALUE!
****Insignificant units (plants 1,2,3 and 4) limited fuel	1.08	2.13	2.13	28.0	3.23	2.15	23.5	33,804.48	negl.	5.88E-04	9.52E-04	0.50	0.02	0.53
Other insignificant units	1.00	1.00	1.00	-	-	1.00	negl.	-	negl.	negl.	negl.	negl.	negl.	negl.
Total	96.65	99.41	99.41	77.30	11.19	23.72	62.88	81,102.32	negl.	1.57E-03	2.54E-03	1.35	0.06	1.41

NOTE: Emission factors for propane fuel are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

There are no emission factors in AP-42, PM10 = PM2.5

* Each shot blaster is equipped with a dust collector. The source claims the overall control efficiency to be 99.9%.

***Melt furnaces use primary fuel as natural gas and Propane is used as a back up fuel. Emissions are based on limited Propane fuel usage of 7,400 Kilogallons per year.

****Plants 1,2,3 and 4, the limited PTE is the worst case scenerio between burning natural gas and propane and limited natural gas usage
 Propane and natural gas usage limit is based on Permit No. F145-15571-00031.

*****The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO2 equivalent emissions (CO2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

**Appendix A: Emissions Calculations
PM and PM10 Emissions
From 10 Shotblasting Lines**

Company Name: Ryobi Die Casting (USA), Inc.

Address: 800 W. Mausoleum Road, Shelbyville, IN 46176

FESOP Renewal No.: 145-30081-00031

Reviewer: Swarna Prabha

Unit ID	Max. throughput Rate (lbs/hr)	PM Emission Factor (lbs/lbs)	PTE of PM before Control (lbs/hr)	PTE of PM before Control (tons/yr)	PM10 Emission Factor (lbs/lbs PM)	PTE of PM10 before Control (lbs/hr)	PTE of PM10 before Control (tons/yr)	Scrubber ID	Control Efficiency	PTE of PM after Control (lbs/hr)	PTE of PM after Control (tons/yr)	PTE of PM10 after Control (lbs/hr)	PTE of PM10 after Control (tons/yr)
SBS-6	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-1	99.9%	1.92	8.41	1.34	5.89
SBS-7	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-1	99.9%	1.92	8.41	1.34	5.89
SBS-9	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-3	99.9%	1.92	8.41	1.34	5.89
SBS-10	138,000	0.01	1,380	6,044	0.70	966	4,231	WDC-3	99.9%	1.38	6.04	0.97	4.23
SBS-11	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-3	99.9%	1.92	8.41	1.34	5.89
03-SBS-01	138,000	0.01	1,380	6,044	0.70	966	4,231	03-WDC-01	99.9%	1.38	6.04	0.97	4.23
03-SBS-02	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-02	99.9%	1.92	8.41	1.34	5.89
03-SBS-03	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-02	99.9%	1.92	8.41	1.34	5.89
03-SBS-04	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-01	99.9%	1.92	8.41	1.34	5.89
03-SBS-06	122,400	0.01	1,224	5,361	0.70	857	3,753	03-WDC-03	99.9%	1.22	5.36	0.86	3.75
Total				76,317			53,422				76.3		53.4

* The emission factors are from grit blasting from Air Quality Permits, Vol.1, Section 3 "Abrasive Blasting" (1991 Edition) by Stappa Alapco.

Methodology

PTE of PM before Control (lbs/hr) = Max. Abrasive Usage (lbs/hr) x PM Emission Factor (lbs/lbs)

PTE of PM before Control (tons/yr) = Max. Abrasive Usage (lbs/hr) x PM Emission Factor (lbs/lbs) x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM10 before Control = Potential PM Emissions x PM10 Emission Factor

PTE of PM/PM10 after Control = PTE of PM/PM10 before Control x (1 - Control Efficiency)

**Appendix A: Emission Calculations
Combustion Emissions from Seven (7) Melt Furnaces
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

1. From Natural Gas Combustion (<100 MMBtu/hr):

Total Heat Input MMBtu/hr	Potential throughput MMCF/yr
106.97	937.09

		Pollutant					
Emission Factor in lbs/MMCF		PM	PM10*	SO ₂	**NO _x	VOC	CO
		1.9	7.6	0.6	100	5.5	84.0
Unit ID	Heat Input Capacity (MMBtu/hr)	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)	PTE of SO ₂ (tons/yr)	PTE of NO _x (tons/yr)	PTE of VOC (tons/yr)	PTE of CO (tons/yr)
MF-5	14.4	0.12	0.48	0.04	6.31	0.35	5.30
MF-6	19.3	0.16	0.64	0.05	8.45	0.46	7.10
MF-1S	15.0	0.12	0.50	0.04	6.57	0.36	5.52
MF-2M	23.8	0.20	0.79	0.06	10.4	0.57	8.76
MF-3N	13.4	0.11	0.45	0.04	5.87	0.32	4.93
MF-1	18.0	0.15	0.60	0.05	7.88	0.43	6.62
MF-7	3.074	0.03	0.10	0.01	1.3	0.07	1.13
Total	106.97	0.89	3.56	0.28	46.85	2.58	39.36

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (AP-42 Supplement D 3/98).

Methodology

PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. From the Back-Up Fuel (Propane) Combustion:

Heat Input Capacity MMBtu/hr	Sulfur Content S (gr/100 ft ³)
106.97	15

		**Emission Factor in lbs/kgal					
		PM	PM10*	SO ₂	NO _x	VOC	CO
		0.5	0.7	1.5 (0.10S)	13	1.0	7.5
Unit ID	Heat Input Capacity (MMBtu/hr)	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)	PTE of SO ₂ (tons/yr)	PTE of NO _x (tons/yr)	PTE of VOC (tons/yr)	PTE of CO (tons/yr)
MF-5	14.4	0.34	0.48	1.03	9.0	0.69	5.17
MF-6	19.3	0.46	0.65	1.39	12.0	0.92	6.93
MF-1S	15.0	0.36	0.50	1.08	9.3	0.72	5.39
MF-2M	23.8	0.57	0.80	1.71	14.8	1.14	8.54
MF-3N	13.4	0.32	0.45	0.96	8.3	0.64	4.81
MF-1	18.0	0.43	0.60	1.29	11.2	0.86	6.46
MF-7	3.074	0.07	0.10	0.22	1.91	0.15	1.10
Total	106.97	2.56	3.58	7.68	66.57	5.12	38.41

*Assume the PM10 emission factor is equivalent to the PM emission factor.

**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lbs/kgal)/2,000 lb/ton

3. PTE of the Furnaces (Worst Case Scenario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*PTE (tons/yr)	2.56	3.58	7.68	66.6	5.12	39.4

*PTE of these units are the worst case scenario between burning natural gas and propane.

**Appendix A: Emission Calculations
Combustion Emissions from Seven (7) Melt Furnaces with Limits
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7
Limited PTE**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

1. Potential to Emit While Using NG:

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
106.97 (7 units combined)	937.09

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.89	3.56	0.28	46.9	2.58	39.4

*PM10 emission factor is condensable and filterable PM10 combined.
**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.
Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Limited PTE While Using Propane:

Heat Input Capacity MMBtu/hr	Throughput Limit kgal/yr	Sulfur Content (gr/100 ft ³)
106.97 (7 units combined)	7,400	15

Emission Factor in lb/kgal	Pollutant					
	PM	PM10*	SO ₂	NO _x	VOC	CO
	0.5	0.7	1.5 (0.10S)	13	1	7.5
Potential to Emit in tons/yr	1.85	2.59	5.55	48.1	3.70	27.8

*Assume the PM10 emission factor is equivalent to the PM emission factor.
**Emission factors for Propane are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

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

3. Limited PTE of the Furnaces (Worst Case Scenario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Limited PTE (tons/yr)	1.85	3.56	5.55	48.1	3.70	39.4

*PTE of these units are the worst case scenario between burning natural gas and propane.

There are no emission Factor in AP-42 for PM2.5, PM10 = PM2.5

Limited emissions from 7,400 Kgl of Propane:

Emission Factor in lb/k	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tc	46,250	0.7	3.3
Summed Potential Emissions in tons/yr	46,254		
CO2e Total in tons/yr	47,298		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.
Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emission Calculations
HAP Emissions
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion)

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
106.97 (7 units combined)	937.1

Emission Factor in lbs/MMCF	Pollutant					Total HAPs
	Hexane 1.8E+00	Formaldehyde 7.5E-02	Toluene 3.4E-03	Benzene 2.1E-03	Nickel 2.1E-03	
Unlimited Potential to Emit (tons/yr)	0.84	0.04	1.59E-03	9.84E-04	9.84E-04	0.88

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

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
 Unlimited PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Emissions from the Scrap Handling Process**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Max. AI Throughput
(lbs/hr)

12,500

	Pollutant					
	PM	PM10	SO ₂	NO _x	VOC	CO
Emission Factor in lbs/ton	0.6	0.6	-	-	-	-
Potential to Emit in lbs/hr	3.75	3.75	-	-	-	-
Potential to Emit in tons/yr	16.4	16.4	-	-	-	-

Note: Emission factors are from AP-42, Table 12.10-7 for the scrap and charge handling process at gray iron foundaries (AP-42, 05/03).

Methodology

PTE (lbs/hr) = Max. AI Throughput (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton)

PTE (tons/yr) = Max. AI Throughput (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Emissions from the Die Casting Process**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Max. Al Input
tons/hr

Potential Throughput
MMCF/yr

27.5

	Pollutant					
	PM*	PM10*	SO ₂	NO _x	VOC	CO
Emission Factor in lbs/ton	-	-	0.02	0.01	0.14	-
Potential to Emit in tons/yr	-	-	2.41	1.20	16.9	-

Note: Emission factors are from FIRE, Version 6.24, for Aluminum Pouring/Casting (SIC 30400114).

Methodology

Potential to Emit (tons/yr) = Max. Al Input (tons/hr) x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
From Insignificant Combustion Units (Plants 1, 2, and 4)

Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

1. Potential to Emit While Burning Natural Gas:

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
117 (125 units combined)	1024.7

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.97	3.89	0.31	51.2	2.82	43.0

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Potential to Emit Emissions While Burning Propane:

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	Sulfur Content (gr/100 ft ³)
117 (125 units combined)	11,198.44	15

**Emission Factor in lb/kgal	Pollutant					
	PM	PM10*	SO ₂	NO _x	VOC	CO
	0.5	0.7	1.5 (0.10S)	13	1	7.5
Potential to Emit in tons/yr	2.80	3.92	8.40	72.8	5.60	42.0

*Assume the PM10 emission factor is equivalent to the PM emission factor.

**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu
 PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lb/kgal)/2,000 lb/ton

3. Total Potential to Emit from the Insignificant Combustion Units in Plants 1, 2, and 4:

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Potential to Emit (tons/yr)	2.80	3.89	8.40	72.8	2.82	43.0

*PTE of these units are the worst case scenario between burning natural gas and propane.

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

Emission Factor in lbs/MMCF	Pollutant					
	Hexane	Formaldehyde	Toluene	Benzene	Nickel	Total HAPs
	1.8E+00	7.5E-02	3.4E-03	2.1E-03	2.1E-03	
Unlimited Potential to Emit (tons/yr)	0.92	3.84E-02	1.74E-03	1.08E-03	1.08E-03	0.96

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

**Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From Insignificant Combustion Units (Plant 3)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

117.12 (88 units combined)

1026.0

	Pollutant					
Emission Factor in lb/MMCF	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.97	3.90	0.31	51.3	2.82	43.1

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

	Pollutant					
Emission Factor in lbs/MMCF	Hexane	Formaldehyde	Toluene	Benzene	Nickel	Total HAPs
	1.8E+00	7.5E-02	3.4E-03	2.1E-03	2.1E-03	
Unlimited Potential to Emit (tons/yr)	0.92	3.90	3.08E-01	5.13E+01	2.82E+00	59.25
Limited Potential to Emit (tons/yr)	0.11	4.39E-03	1.99E-04	1.23E-04	1.23E-04	0.11

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Limited PTE of All Insignificant Combustion Units (Plant 1, 2, 3, and 4)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

1. Potential to Emit with Natural Gas Usage Limit:

Heat Input Capacity MMBtu/hr	Thruput Limit MMCF/yr					
234 (213 units combined)	560					
	Pollutant					
Emission Factor in lb/MMCF	PM 1.9	PM10* 7.6	SO ₂ 0.6	**NO _x 100	VOC 5.5	CO 84.0
Potential to Emit in tons/yr	0.53	2.13	0.17	28.0	1.54	23.5

*PM10 emission factor is condensable and filterable PM10 combined.
**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.
Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Potential to Emit While Buring Propane (only the units at Plants 1, 2, and 4 can use propane):

Heat Input Capacity MMBtu/hr	Thruput Limit kgal/yr			Sulfur Content (gr/100 ft ³)		
117 (125 units combined)	4308			15		
	Pollutant					
**Emission Factor in lb/kgal	PM* 0.5	PM10* 0.7	SO ₂ 1.5 (0.10S)	NO _x 13	VOC 1	CO 7.5
Potential to Emit in tons/yr	1.08	1.51	3.23	28.0	2.15	16.15

*PM and PM10 emission factors are condensable and filterable PM10 combined.
**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu
PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lb/kgal)/2,000 lb/ton

3. Limited PTE for All the Insignificant Combustion Units (Worst Case Scenario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Potential to Emit (tons/yr)	1.08	2.13	3.23	28.0	2.15	23.5

*PTE of these units are the worst case scenario between burning natural gas and propane.

Limited emissions from 560.0 MMCF/yr of natural gas:

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor in lb/k	120,000	2.3	2.2
Potential Emission in tc	33,600	0.6	0.6
Summed Potential Emissions in tons/yr	33,601.3		
CO ₂ e Total in tons/yr	33,804.5		

Methodology

The CO₂ Emission Factor for Propane is 12500. The CO₂ Emission Factor for Butane is 14300.
Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
CO₂e (tons/yr) = CO₂ Potential Emission ton/yr x CO₂ GWP (1) + CH₄ Potential Emission ton/yr x CH₄ GWP (21) + N₂O Potential Emission ton/yr x N₂O GWP (310).

**Appendix A: Emission Calculations
HAP Emissions
From All Insignificant Combustion Units (Plant 1, 2, 3, and 4)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Throughput Limit MMCF/yr
234 (213 units combined)	2050.7	560

Emission Factor in lbs/MMCF	Pollutant					Total HAPs
	Hexane 1.8E+00	Formaldehyde 7.5E-02	Toluene 3.4E-03	Benzene 2.1E-03	Nickel 2.1E-03	
Unlimited Potential to Emit (tons/yr)	1.85	0.08	3.49E-03	2.15E-03	2.15E-03	1.93
Limited Potential to Emit (tons/yr)	0.50	0.02	9.52E-04	5.88E-04	5.88E-04	0.53

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

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

Unlimited PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Limited PTE (tons/yr) = Throughput Limit (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Emission Calcu Appendix A:
Natural Gas Combustion
(MMBtu/hr < 100)**

CO2e Emissions from all combustion units and furnaces

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha
Appendix A: Emission Calculations**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
Plant 3	
117.12	(88 units combined) 1026.0

Total Heat Input MMBtu/hr	Potential throughput MMCF/yr
106.97	Melt Furnaces 937.1

Plant 1, ,2 and 4:	
Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
117.0	(125 units combined) 1024.7

Greenhouse Gas Emissions

Emission Factor in lb/l	Greenhouse Gas		
	CO2 120,000.00	CH4 2.3	N2O 2.2
88 units PTE in tons/yr	61,558.27	1.18	1.13
937.1 MMCF/yr units- PTE in tons/yr	56,223.43	1.08	1.03
125 Units PTE in Tons/yr	61,479.43	1.18	1.13
Summed 88 units PTE in tons/yr	61,560.58		
88 units PTE in tons/yr	56,225.54		
125 Units PTE in Tons/yr	61,481.74		
CO2e Total in tons/yr (88 Units)	61,932.91		
CO2e Total in tons/yr (88 Units)	56,565.60		
CO2e Total in tons/yr (125 Units)	61,853.59		
Total	180,352.09		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) +

**Appendix A.3: Emissions Calculations
Fuel Equivalency Calculations (Natural Gas is the main fuel)**

Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

*Note: these equivalencies are related back to natural gas (assumed to be the predominant fuel used at this source).

Fuel Type	NOx Equivalency				CO Equivalency			
	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	100	lb/MMCF	1.00	MMCF natural gas per MMCF natural gas	84	lb/MMCF	11.2	1000 gal propane per MMCF natural gas
Propane	13.0	lb/kgal	7.69	MMCF natural gas per 1000 gal propane	7.5	lb/kgal	1.00	1000 gal propane per 1000 gal propane

Methodology

Fuel Equivalency = [AP-42 Emission Factor for any fuel type (lb/kgal)] / [AP-42 Emission Factor for Natural Gas (lb/MMCF)]

Sources of AP-42 Emission Factors for fuel combustion:

Appendix A Emission Summary

Company Name: Ryobi Die Casting (USA), Inc.
 Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
 FESOP Renewal No.: 145-30081-00031
 Reviewer: Swarna Prabha

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

Emission Unit	Potential Emissions (tons/yr)												
	PM	PM10	PM2.5	NOx	SOx	VOC	CO	Xylene	Nickel	Toluene	Hexane	Formaldehyde	Total HAPs
(10) Shot Blast Lines-SBS-6, SBS-7, SBS-9, SBS-10, SBS-11 03-SBS-01 through 03-SBS-04 and 03-SBS-06	76317	53422	53422	-	-	-	-	-	-	-	-	-	-
Seven (7) Melt Furnaces (worst fuel) MF-5, MF-6, MF-1S, MF-2M, MF-3N,MF-1,MF-7	2.56	3.58	3.58	66.57	7.68	5.1	39.4	negl.	9.84E-04	1.59E-03	0.84	0.04	0.88
Scrap handling proces	16.4	16.4	16.4	-	-	-	-	-	-	-	-	-	-
Die Casting process	-	-	-	1.20	2.41	16.9	-	-	-	-	-	-	-
Insignificant units (plants 1,2,and 4) worst fuel	2.80	3.89	3.89	72.8	8.40	2.82	43.0	-	1.08E-03	1.74E-03	0.92	0.04	0.96
Insignificant unit Plant 3 (natural gas only)	0.97	3.9	3.9	51.3	0.31	2.82	43.1	negl.	1.23E-04	1.99E-04	0.11	4.39E-03	0.11
Other insignificant units	1.00	1.00	1.00	-	1.00	1.00	negl.	negl.	negl.	negl.	negl.	negl.	negl.
Total	76340.88	53450.79	53450.79	191.86	19.80	28.62	125.48	negl.	0.00	3.53E-03	1.87	7.80E-02	1.95

Emission Unit	Limited Emissions (tons/yr)												
	PM	PM10	PM2.5	NOx	SOx	VOC	CO	Xylene	Nickel	Toluene	Hexane	Formaldehyde	Total HAPs
(10) Shot Blast Lines-SBS-6, SBS-7, SBS-9, SBS-10, SBS-11	76.3	76.3	76.3	-	-	-	-	-	-	-	-	-	-
***Seven (7) Melt Furnaces (worst fuel) MF-5, MF-6, MF-1S, MF-2M, MF-3N,MF-1,MF-7	1.85	3.56	3.56	48.1	5.55	3.70	39.4	negl.	9.84E-04	1.59E-03	0.84	0.04	0.88
Scrap handling proces	16.4	16.4	16.4	-	-	-	-	-	-	-	-	-	-
Die Casting process	-	-	-	1.20	2.41	16.9	-	-	-	-	-	-	#VALUE!
****Insignificant units (plants 1,2,3 and 4) limited fuel	1.08	2.13	2.13	28.0	3.23	2.15	23.5	negl.	5.88E-04	9.52E-04	0.50	0.02	0.53
Other insignificant units	1.00	1.00	1.00	-	-	1.00	negl.	negl.	negl.	negl.	negl.	negl.	negl.
Total	96.65	99.41	99.41	77.30	11.19	23.72	62.88	negl.	1.57E-03	2.54E-03	1.35	0.06	1.41

NOTE: Emission factors for propane fuel are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

There are no emission factors in AP-42, PM10 = PM2.5

* Each shot blaster is equipped with a dust collector. The source claims the overall control efficiency to be 99.9%.

***Melt furnaces use primary fuel as natural gas and Propane is used as a back up fuel. Emissions are based on limited Propane fuel usage of 7,400 Kilogallons per year.

****Plants 1,2,3 and 4, the limited PTE is the worst case scenerio between burning natural gas and propane and limited natural gas usage

Propane and natural gas usage limit is based on Permit No. F145-15571-00031.

**Appendix A: Emissions Calculations
PM and PM10 Emissions
From 10 Shotblasting Lines**

Company Name: Ryobi Die Casting (USA), Inc.

Address: 800 W. Mausoleum Road, Shelbyville, IN 46176

FESOP Renewal No.: 145-30081-00031

Reviewer: Swarna Prabha

Unit ID	Max. throughput Rate (lbs/hr)	PM Emission Factor (lbs/lbs)	PTE of PM before Control (lbs/hr)	PTE of PM before Control (tons/yr)	PM10 Emission Factor (lbs/lbs PM)	PTE of PM10 before Control (lbs/hr)	PTE of PM10 before Control (tons/yr)	Scrubber ID	Control Efficiency	PTE of PM after Control (lbs/hr)	PTE of PM after Control (tons/yr)	PTE of PM10 after Control (lbs/hr)	PTE of PM10 after Control (tons/yr)
SBS-6	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-1	99.9%	1.92	8.41	1.34	5.89
SBS-7	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-1	99.9%	1.92	8.41	1.34	5.89
SBS-9	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-3	99.9%	1.92	8.41	1.34	5.89
SBS-10	138,000	0.01	1,380	6,044	0.70	966	4,231	WDC-3	99.9%	1.38	6.04	0.97	4.23
SBS-11	192,000	0.01	1,920	8,410	0.70	1,344	5,887	WDC-3	99.9%	1.92	8.41	1.34	5.89
03-SBS-01	138,000	0.01	1,380	6,044	0.70	966	4,231	03-WDC-01	99.9%	1.38	6.04	0.97	4.23
03-SBS-02	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-02	99.9%	1.92	8.41	1.34	5.89
03-SBS-03	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-02	99.9%	1.92	8.41	1.34	5.89
03-SBS-04	192,000	0.01	1,920	8,410	0.70	1,344	5,887	03-WDC-01	99.9%	1.92	8.41	1.34	5.89
03-SBS-06	122,400	0.01	1,224	5,361	0.70	857	3,753	03-WDC-03	99.9%	1.22	5.36	0.86	3.75
Total				76,317			53,422				76.3		53.4

* The emission factors are from grit blasting from Air Quality Permits, Vol.1, Section 3 "Abrasive Blasting" (1991 Edition) by Stappa Alapco.

Methodology

PTE of PM before Control (lbs/hr) = Max. Abrasive Usage (lbs/hr) x PM Emission Factor (lbs/lbs)

PTE of PM before Control (tons/yr) = Max. Abrasive Usage (lbs/hr) x PM Emission Factor (lbs/lbs) x 8760 hr/yr x 1 ton/2000 lbs

PTE of PM10 before Control = Potential PM Emissions x PM10 Emission Factor

PTE of PM/PM10 after Control = PTE of PM/PM10 before Control x (1 - Control Efficiency)

Appendix A: Emission Calculations
Combustion Emissions from Seven (7) Melt Furnaces
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7

Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

1. From Natural Gas Combustion (<100 MMBtu/hr):

Total Heat Input MMBtu/hr	Potential throughput MMCF/yr
106.97	937.09224

		Pollutant					
Emission Factor in lbs/MMCF		PM	PM10*	SO ₂	**NO _x	VOC	CO
		1.9	7.6	0.6	100	5.5	84.0
Unit ID	Heat Input Capacity (MMBtu/hr)	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)	PTE of SO ₂ (tons/yr)	PTE of NO _x (tons/yr)	PTE of VOC (tons/yr)	PTE of CO (tons/yr)
MF-5	14.4	0.12	0.48	0.04	6.31	0.35	5.30
MF-6	19.3	0.16	0.64	0.05	8.45	0.46	7.10
MF-1S	15.0	0.12	0.50	0.04	6.57	0.36	5.52
MF-2M	23.8	0.20	0.79	0.06	10.4	0.57	8.76
MF-3N	13.4	0.11	0.45	0.04	5.87	0.32	4.93
MF-1	18.0	0.15	0.60	0.05	7.88	0.43	6.62
MF-7	3.074	0.03	0.10	0.01	1.3	0.07	1.13
Total	106.97	0.89	3.56	0.28	46.85	2.58	39.36

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3 (AP-42 Supplement D 3/98).

Methodology

PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. From the Back-Up Fuel (Propane) Combustion:

Heat Input Capacity MMBtu/hr	Sulfur Content S (gr/100 ft ³)
106.97	15

**Emission Factor in lbs/kgal		PM	PM10*	SO ₂	NO _x	VOC	CO
		0.5	0.7	1.5 (0.10S)	13	1.0	7.5
Unit ID	Heat Input Capacity (MMBtu/hr)	PTE of PM (tons/yr)	PTE of PM10 (tons/yr)	PTE of SO ₂ (tons/yr)	PTE of NO _x (tons/yr)	PTE of VOC (tons/yr)	PTE of CO (tons/yr)
MF-5	14.4	0.34	0.48	1.03	9.0	0.69	5.17
MF-6	19.3	0.46	0.65	1.39	12.0	0.92	6.93
MF-1S	15.0	0.36	0.50	1.08	9.3	0.72	5.39
MF-2M	23.8	0.57	0.80	1.71	14.8	1.14	8.54
MF-3N	13.4	0.32	0.45	0.96	8.3	0.64	4.81
MF-1	18.0	0.43	0.60	1.29	11.2	0.86	6.46
MF-7	3.074	0.07	0.10	0.22	1.91	0.15	1.10
Total	106.97	2.56	3.58	7.68	66.57	5.12	38.41

*Assume the PM10 emission factor is equivalent to the PM emission factor.

**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lbs/kgal)/2,000 lb/ton

3. PTE of the Furnaces (Worst Case Scenario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*PTE (tons/yr)	2.56	3.58	7.68	66.6	5.12	39.4

*PTE of these units are the worst case scenario between burning natural gas and propane.

Appendix A: Emission Calculations
Combustion Emissions from Seven (7) Melt Furnaces with Limits
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7
Limited PTE
Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

1. Potential to Emit While Using NG:

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
106.97 (7 units combined)	937

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.89	3.56	0.28	46.9	2.58	39.4

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Limited PTE While Using Propane:

Heat Input Capacity MMBtu/hr	Thruput Limit kgal/yr	Sulfur Content (gr/100 ft ³)
106.97 (7 units combined)	7,400	15

Emission Factor in lb/kgal	Pollutant					
	PM	PM10*	SO ₂	NO _x	VOC	CO
	0.5	0.7	1.5 (0.10S)	13	1	7.5
Potential to Emit in tons/yr	1.85	2.59	5.55	48.1	3.70	27.8

*Assume the PM10 emission factor is equivalent to the PM emission factor.

**Emission factors for Propane are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

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

3. Limited PTE of the Furnaces (Worst Case Senario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Limited PTE (tons/yr)	1.85	3.56	5.55	48.1	3.70	39.4

*PTE of these units are the worst case scenario between burning natural gas and propane.

Appendix A: Emission Calculations
HAP Emissions
Seven (7) Melt Furnaces MF-5, MF-6, MF-1S, MF-2M, MF-3N, MF-1 and MF-7

Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
106.97 (7 units combined)	937.1

Emission Factor in lbs/MMCF	Pollutant					Total HAPs
	Hexane 1.8E+00	Formaldehyde 7.5E-02	Toluene 3.4E-03	Benzene 2.1E-03	Nickel 2.1E-03	
Unlimited Potential to Emit (tons/yr)	0.84	0.04	1.59E-03	9.84E-04	9.84E-04	0.88

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

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

Unlimited PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Emissions from the Scrap Handling Process**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Max. AI Throughput
(lbs/hr)

12,500

	Pollutant					
	PM	PM10	SO ₂	NO _x	VOC	CO
Emission Factor in lbs/ton	0.6	0.6	-	-	-	-
Potential to Emit in lbs/hr	3.75	3.75	-	-	-	-
Potential to Emit in tons/yr	16.4	16.4	-	-	-	-

Note: Emission factors are from AP-42, Table 12.10-7 for the scrap and charge handling process at gray iron foundaries (AP-42, 05/03).

Methodology

PTE (lbs/hr) = Max. AI Throughput (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton)

PTE (tons/yr) = Max. AI Throughput (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations
Emissions from the Die Casting Process**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Max. Al Input
tons/hr

Potential Throughput
MMCF/yr

27.5

	Pollutant					
	PM*	PM10*	SO ₂	NO _x	VOC	CO
Emission Factor in lbs/ton	-	-	0.02	0.01	0.14	-
Potential to Emit in tons/yr	-	-	2.41	1.20	16.9	-

Note: Emission factors are from FIRE, Version 6.24, for Aluminum Pouring/Casting (SIC 30400114).

Methodology

Potential to Emit (tons/yr) = Max. Al Input (tons/hr) x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs

**Appendix A: Emission Calculations
From Insignificant Combustion Units (Plants 1, 2, and 4)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

1. Potential to Emit While Burning Natural Gas:

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
117 (125 units combined)	1024.7

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.97	3.89	0.31	51.2	2.82	43.0

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Potential to Emit Emissions While Burning Propane:

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	Sulfur Content (gr/100 ft ³)
117 (125 units combined)	11198.4	15

**Emission Factor in lb/kgal	Pollutant					
	PM	PM10*	SO ₂	NO _x	VOC	CO
	0.5	0.7	1.5 (0.10S)	13	1	7.5
Potential to Emit in tons/yr	2.80	3.92	8.40	72.8	5.60	42.0

*Assume the PM10 emission factor is equivalent to the PM emission factor.

**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu
PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lb/kgal)/2,000 lb/ton

3. Total Potential to Emit from the Insignificant Combustion Units in Plants 1, 2, and 4:

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Potential to Emit (tons/yr)	2.80	3.89	8.40	72.8	2.82	43.0

*PTE of these units are the worst case scenario between burning natural gas and propane.

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

Emission Factor in lbs/MMCF	Pollutant					
	Hexane	Formaldehyde	Toluene	Benzene	Nickel	Total HAPs
	1.8E+00	7.5E-02	3.4E-03	2.1E-03	2.1E-03	
Unlimited Potential to Emit (tons/yr)	0.92	3.84E-02	1.74E-03	1.08E-03	1.08E-03	0.96

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

**Appendix A: Emission Calculations
Natural Gas Combustion
(MMBtu/hr < 100)
From Insignificant Combustion Units (Plant 3)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

117 (88 units combined)

1026.0

	Pollutant					
Emission Factor in lb/MMCF	PM 1.9	PM10* 7.6	SO ₂ 0.6	**NO _x 100	VOC 5.5	CO 84.0
Potential to Emit in tons/yr	0.97	3.90	0.31	51.3	2.82	43.1

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

	Pollutant					
Emission Factor in lbs/MMCF	Hexane 1.8E+00	Formaldehyde 7.5E-02	Toluene 3.4E-03	Benzene 2.1E-03	Nickel 2.1E-03	Total HAPs
Unlimited Potential to Emit (tons/yr)	0.92	3.90	3.08E-01	5.13E+01	2.82E+00	59.25
Limited Potential to Emit (tons/yr)	0.11	4.39E-03	1.99E-04	1.23E-04	1.23E-04	0.11

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Appendix A: Emission Calculations
Limited PTE of All Insignificant Combustion Units (Plant 1, 2, 3, and 4)

Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha

1. Potential to Emit with Natural Gas Usage Limit:

Heat Input Capacity
MMBtu/hr

Thruput Limit
MMCF/yr

234 (213 units combined)

560

Emission Factor in lb/MMCF	Pollutant					
	PM	PM10*	SO ₂	**NO _x	VOC	CO
	1.9	7.6	0.6	100	5.5	84.0
Potential to Emit in tons/yr	0.53	2.13	0.17	28.0	1.54	23.5

*PM10 emission factor is condensable and filterable PM10 combined.

**Emission factors for NO_x: Uncontrolled = 100 lbs/MMCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

Methodology

Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Potential to Emit (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

2. Potential to Emit While Buring Propane (only the units at Plants 1, 2, and 4 can use propane):

Heat Input Capacity
MMBtu/hr

Thruput Limit
kgal/yr

Sulfur Content (gr/100 ft³)
15

117 (125 units combined)

4308

**Emission Factor in lb/kgal	Pollutant					
	PM*	PM10*	SO ₂	NO _x	VOC	CO
	0.5	0.7	1.5 (0.10S)	13	1	7.5
Potential to Emit in tons/yr	1.08	1.51	3.23	28.0	2.15	16.15

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

**Emission factors are updated and are from AP-42, Chapter 1.5-1 (AP-42, 07/2008).

Methodology

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu
 PTE (tons/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal/1,000 gal x 1 gal/0.0915 MMBtu x Emission Factor (lb/kgal)/2,000 lb/ton

3. Limited PTE for All the Insignificant Combustion Units (Worst Case Scenario):

Pollutant	PM	PM10	SO ₂	NO _x	VOC	CO
*Potential to Emit (tons/yr)	1.08	2.13	3.23	28.0	2.15	23.5

*PTE of these units are the worst case scenario between burning natural gas and propane.

**Appendix A: Emission Calculations
HAP Emissions
From All Insignificant Combustion Units (Plant 1, 2, 3, and 4)**

**Company Name: Ryobi Die Casting (USA), Inc.
Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
FESOP Renewal No.: 145-30081-00031
Reviewer: Swarna Prabha**

PTE of HAPs While Burning Natural Gas (note there are no HAP emission factors available for propane combustion):

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Throughput Limit MMCF/yr
234 (213 units combined)	2050.7	560

Emission Factor in lbs/MMCF	Pollutant					Total HAPs
	Hexane	Formaldehyde	Toluene	Benzene	Nickel	
	1.8E+00	7.5E-02	3.4E-03	2.1E-03	2.1E-03	
Unlimited Potential to Emit (tons/yr)	1.85	0.08	3.49E-03	2.15E-03	2.15E-03	1.93
Limited Potential to Emit (tons/yr)	0.50	0.02	9.52E-04	5.88E-04	5.88E-04	0.53

Emission factors are from AP-42, Chapter 1.4, Table 1.4-3 (AP-42, 03/98).

Methodology

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

Unlimited PTE (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Limited PTE (tons/yr) = Throughput Limit (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2000 lbs

Appendix A.3: Emissions Calculations
Fuel Equivalency Calculations (Natural Gas is the main fuel)

Company Name: Ryobi Die Casting (USA), Inc.
 Address: 800 W. Mausoleum Road, Shelbyville, IN 46176
 FESOP Renewal No.: 145-30081-00031
 Reviewer: Swarna Prabha

*Note: these equivalencies are related back to natural gas (assumed to be the predominant fuel used at this source).

Fuel Type	NOx Equivalency				CO Equivalency			
	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units	AP-42 Emission Factor	Emission Factor Units	Fuel Equivalency	Fuel Equivalency Units
Natural Gas	100	lb/MMCF	1.00	MMCF natural gas per MMCF natural gas	84	lb/MMCF	11.2	1000 gal propane per MMCF natural gas
Propane	13.0	lb/kgal	7.69	MMCF natural gas per 1000 gal propane	7.5	lb/kgal	1.00	1000 gal propane per 1000 gal propane

Methodology

Fuel Equivalency = [AP-42 Emission Factor for any fuel type (lb/kgal)] / [AP-42 Emission Factor for Natural Gas (lb/MMCF)]

Sources of AP-42 Emission Factors for fuel combustion:



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Lynn Funk
Ryobi Die Casting
800 W. Mausoleum Rd
Shelbyville, IN 46176

DATE: August 23, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP – Renewal
145-30081-00031

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Tom Johnson (President)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

August 23, 2011

TO: Shelby County Public Library - Shelbyville

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Ryobi Die Casting
Permit Number: 145-30081-00031

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	MIDENNEY 8/23/2011 Ryobi Die Casting (USA), Inc. 145-30081-00031 (final)		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Lynn Funk Ryobi Die Casting (USA), Inc. 800 W Mausoleum Rd Shelbyville IN 46176 (Source CAATS)via confirm delivery										
2		Tom Johnson President Ryobi Die Casting (USA), Inc. 800 W Mausoleum Rd Shelbyville IN 46176 (RO CAATS)										
3		Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
4		Mr. Hugh Garner 10203 S Degelow Road Milroy IN 46156 (Affected Party)										
5		Shelbyville City Council and Mayors Office 44 West Washington Shelbyville IN 46176 (Local Official)										
6		Shelby County Commissioners 25 West Polk Shelbyville IN 46176 (Local Official)										
7		Shelbyville Shelby Co Public 57 W Broadway Shelbyville IN 46176-1294 (Library)										
8		Karla Friesen 575 Mountain Avenue Murray Hill NJ 07974 (Affected Party)										
9		Shelby County Health Department 1600 E. SR 44B Shelbyville IN 46176 (Health Department)										
10		Margaret Brunk Shelby County Council PO Box 107 Fountaintown In 46130 (Affected Party)										
11		Tami Grubbs Shelby County Council 2961 N 100 W Shelbyville In 46176 (Affected Party)										
12												
13												
14												
15												

Total number of pieces Listed by Sender 10	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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