



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 24, 2010

RE: B & F Plastics, Inc. / 177-29419-00103

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

Notice of Decision: Approval - Registration

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 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires 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
FN-REGIS.dot 1/2/08



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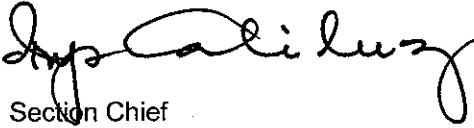
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REGISTRATION OFFICE OF AIR QUALITY

B & F Plastics, Inc.
540 North 8th Street and 814 South L Street
Richmond, Indiana 47374

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 177-29419-00103	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 24, 2010

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary source that manufactures recycled rubber tire and thermoplastic products.

Source Address:	540 North 8th Street, Richmond, Indiana 47374-2304
General Source Phone Number:	765-962-6125
SIC Code:	3089
County Location:	Wayne County
Source Location Status:	Attainment for all other criteria pollutants
Source Status:	Registration

A.2 Source Definition

This stationary rubber tire and thermoplastic product manufacturing company consists of three (3) plants and two buildings:

- (a) Plant 1 and Plant 3 and two Buildings (600 and 608) are located at 540 North 8th Street, Richmond, Indiana; Plant ID 177-00103; and,
- (b) Plant 2 is located a mile away at 814 South L Street, Richmond, Indiana.

Since the plants and buildings are located on adjacent properties, belong to the same industrial grouping, and under common control of the same entity, they will be considered one (1) source, effective from the date of issuance of this registration.

A.3 Emission Units and Pollution Control Equipment Summary

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

- (a) Plant 1 consisting of:
 - (1) Ten (10) extruders, identified as Extruders 1 through 10, constructed prior to 2002. Extruders 1, 2, 5, 6, 8, and 10 each have a maximum capacity of 400 pounds of plastic per hour. Extruders 3, 4, 7 and 9 have a maximum capacity of 500 pounds of plastic per hour, each, using no control, exhausting inside.
 - (2) Ten (10) grinders, identified as Grinders 1 through 10. Grinders 1 through 6 were constructed prior to 2002 and grinders 7 through 10 were approved for construction in 2010. Grinders 1, 2, 5, 6, 8 and 10 each have a maximum capacity of 40 pounds of plastic per hour. Grinders 3, 4, 7, and 9 each have a maximum capacity of 50 pounds of plastic per hour, exhausting outside to the atmosphere.
 - (3) Four (4) natural gas-fired space heaters, identified as Heaters 1-4, constructed prior to 2002. Heater 1 has a maximum heat input capacity of 0.195 million Btu per hour and Heaters 2, 3 and 4 have a maximum heat input capacity of 0.234 million Btu per hour each.

- (4) Five (5) resin storage silos, identified as Silos 1, 2, 3, 4 and 5, Silos 1, 2 and 3 were constructed prior to 2002, and Silos 4 and 5 approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (b) Plant 2 consisting of:
- (1) Four (4) extruders, identified as Extruders 11,12, 13 and 14, extruders 11 and 12 were constructed prior to 2002, and extruders 13 and 14 were approved for construction in 2010, with a maximum capacity of 500 pounds of plastic per hour, each.
 - (2) Five (5) grinders, identified as Grinders 11, 12, 13, 14 and 15, approved for construction in 2010, with a maximum capacity of 50 pounds of plastic per hour, each.
 - (3) Five (5) natural gas-fired space heaters, identified as Heaters 5-9, approved for construction in 2010. Heaters 5, 6, 7, and 8 have a maximum heat input capacity of 0.234 million Btu per hour each and Heater 9 has a maximum heat input capacity of 0.195 million Btu per hour.
 - (4) Six (6) plastic resin storage silos, identified as Silos 6 through 11, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (c) Plant 3 consisting of:
- (1) One extruder, identified as Extruder 16, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour.
 - (2) One (1) pellitizer, approved for construction in 2002, with a maximum capacity of 800 pounds of plastics per hour.
 - (3) One (1) grinder, identified as Line 16 Grinder, approved for construction in 2010, with a maximum capacity of 200 pounds of plastic per hour.
 - (4) Four (4) plastic resin storage silos, identified as Silos 12 through 15, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (d) Building 600 consisting of:
- (1) Four (4) natural gas-fired space heaters, identified as Heaters 10-13, approved for construction in 2010. Heaters 10 and 13 each have a maximum heat input capacity of 0.195 million Btu per hour, and Heaters 11 and 12 have a maximum heat input capacity of 0.234 million Btu per hour, each.
- (e) Building 608 consisting of:
- (1) One (1) grinder, identified as Grinder 608, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour.
 - (2) Six (6) natural gas-fired space heaters, identified as Heaters 14 through 19, approved for construction in 2010. Heaters 14, 15, 16, 17 and 18 have a maximum heat input capacity of 0.234 million Btu per hour, each and Heater 19 has a maximum heat input capacity of 0.195 million Btu per hour.

- (f) Three (3) molders, identified as Molder 1, 2 and 3, approved for construction in 2010, with a maximum throughput of 500 pounds, each.
- (g) One (1) cut-off saw, identified as Saw 1, approved for construction in 2010, with a maximum throughput of 1,000 pounds per hour.

SECTION B

GENERAL CONDITIONS

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

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

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

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 177-29419-00103 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 registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

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

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

Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) The Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration 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 Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

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

The Registrant shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (c) To the extent the Registrant 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.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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

- (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.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) Plant 1 consisting of:
- (1) Ten (10) extruders, identified as Extruders 1 through 10, constructed prior to 2002. Extruders 1, 2, 5, 6, 8, and 10 each have a maximum capacity of 400 pounds of plastic per hour. Extruders 3, 4, 7 and 9 have a maximum capacity of 500 pounds of plastic per hour, each.
 - (2) Ten (10) grinders, identified as Grinders 1 through 10. Grinders 1 through 6 were constructed prior to 2002 and grinders 7 through 10 were approved for construction in 2010. Grinders 1, 2, 5, 6, 8 and 10 each have a maximum capacity of 40 pounds of plastic per hour. Grinders 3, 4, 7, and 9 each have a maximum capacity of 50 pounds of plastic per hour, each.
 - (3) Four (4) natural gas-fired space heaters, identified as Heaters 1-4, constructed prior to 2002. Heater 1 has a maximum heat input capacity of 0.195 million Btu per hour and Heaters 2, 3 and 4 have a maximum heat input capacity of 0.234 million Btu per hour each.
 - (4) Five (5) resin storage silos, identified as Silos 1, 2, 3, 4 and 5. Silos 1, 2 and 3 were constructed prior to 2002, and Silos 4 and 5 were approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (b) Plant 2 consisting of:
- (1) Four (4) extruders, identified as Extruders 11, 12, 13 and 14, extruders 11 and 12 were constructed prior to 2002, and extruders 13 and 14 were approved for construction in 2010, with a maximum capacity of 500 pounds of plastic per hour, each.
 - (2) Five (5) grinders, identified as Grinders 11, 12, 13, 14 and 15, approved for construction in 2010, with a maximum capacity of 50 pounds of plastic per hour, each.
 - (3) Five (5) natural gas-fired space heaters, identified as Heaters 5-9, approved for construction in 2010. Heaters 5, 6, 7, and 8 have a maximum heat input capacity of 0.234 million Btu per hour each and Heater 9 has a maximum heat input capacity of 0.195 million Btu per hour.
 - (4) Six (6) plastic resin storage silos, identified as Silos 6 through 11, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (c) Plant 3 consisting of:
- (1) One extruder, identified as Extruder 16, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour.
 - (2) One (1) pelletizer, approved for construction in 2002, with a maximum capacity of 800 pounds of plastics per hour.

- (3) One (1) grinder, identified as Line 16 Grinder, approved for construction in 2010, with a maximum capacity of 200 pounds of plastic per hour.
 - (4) Four (4) plastic resin storage silos, identified as Silos 12 through 15, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
 - (d) Building 600 consisting of:
 - (1) Four (4) natural gas-fired space heaters, identified as Heaters 10-13, approved for construction in 2010. Heaters 10 and 13 have a maximum heat input capacity of 0.195 million Btu per hour, and Heaters 11 and 12 have a maximum heat input capacity of 0.234 million Btu per hour, each.
 - (e) Building 608 consisting of:
 - (1) One (1) grinder, identified as Grinder 608, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour.
 - (2) Six (6) natural gas-fired space heaters, identified as Heaters 14 through 19, approved for construction in 2010. Heaters 14, 15, 16, 17 and 18 have a maximum heat input capacity of 0.234 million Btu per hour, each and Heater 19 has a maximum heat input capacity of 0.195 million Btu per hour.
 - (f) Three (3) molders, identified as Molder 1, 2 and 3, approved for construction in 2010, with a maximum throughput of 500 pounds per hour.
 - (g) One (1) cut-off saw, identified as Saw 1, approved for construction in 2010, with a maximum throughput of 1,000 pounds per hour.
- (The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate emissions from the source shall not exceed the pound per hour emission rate established as E in the following formula:

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

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

The emission rate E has been established for the units as follows:

Unit ID / Control Device	Process Weight Rate (ton/hour) (each)	Particulate Emission Limits (pound/hour) (each)
Extruder 1	0.2	1.39
Extruder 2	0.2	1.39
Extruder 3	0.25	1.62

Unit ID / Control Device	Process Weight Rate (ton/hour) (each)	Particulate Emission Limits (pound/hour) (each)
Extruder 4	0.25	1.62
Extruder 5	0.2	1.39
Extruder 6	0.2	1.39
Extruder 7	0.25	1.62
Extruder 8	0.2	1.39
Extruder 9	0.25	1.62
Extruder 10	0.2	1.39
Extruder 11	0.25	1.62
Extruder 12	0.25	1.62
Extruder 13	0.25	1.62
Extruder 14	0.25	1.62
Extruder 16	1.00	4.10
Pellitizer	0.4	2.22
Grinder 1	0.02	0.30
Grinder 2	0.02	0.30
Grinder 3	0.025	1.62
Grinder 4	0.025	1.62
Grinder 5	0.02	0.30
Grinder 6	0.02	0.30
Grinder 7	0.025	1.62
Grinder 8	0.02	0.30
Grinder 9	0.025	1.62
Grinder 10	0.02	0.30
Grinder 11	0.025	1.62
Grinder 12	0.025	1.62
Grinder 13	0.025	1.62
Grinder 14	0.025	1.62
Grinder 15	0.025	1.62
Grinder 608	1.0	4.1
Grinder Line 16	0.1	0.88

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

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	B & F Plastics, Inc.
Address:	540 North 8th Street and 814 South L Street
City:	Richmond, Indiana 47374-2304
Phone Number:	765-962-6125
Registration No.:	177-29419-00103

I hereby certify that B & F Plastics, Inc. is :

- still in operation.
- no longer in operation.
- in compliance with the requirements of Registration No. 177-29419-00103.
- not in compliance with the requirements of Registration No. 177-29419-00103.

I hereby certify that B & F Plastics, Inc. is :

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

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

Noncompliance:

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption Transitioning to a Registration

Source Description and Location

Source Name:	B & F Plastics, Inc.
Source Location:	540 North 8th Street and 814 South L Street, Richmond, Indiana 46374-2304
County:	Wayne
SIC Code:	3089
Registration No.:	177-29419-00103
Permit Reviewer:	Janet Mobley

On July 1, 2010, the Office of Air Quality (OAQ) received an application from B & F Plastics, Inc. related to the transition of an Exemption to a Registration for a source that manufactures recycled rubber tire and thermoplastic products.

Source Definition

This source consists of the following plants:

- (a) Plant 1 and Plant 3 and two buildings (600 and 608) are located at 540 North 8th Street, Richmond, Indiana; Plant ID 177-00103; and,
- (b) Plant 2 is located a mile away at 814 South L Street, Richmond, Indiana, Plant ID: 177-00103.

In order to consider both plants as one single source, all three of the following criteria must be met:

- (1) The plants must have common ownership/control;
- (2) The plants must have the same SIC code; and
- (3) The plants must be located on contiguous or adjacent properties.

These plants are located on adjacent properties, have the same SIC codes of (3089) and are under common control, therefore they will be considered one (1) source, as defined by 326 IAC 2-7-1(22).

Existing Approvals

The source has been operating under Exemption No. 177-15303-00103, issued on February 21, 2002.

Due to this application, the source is transitioning from an Exemption to a Registration due to the addition of new unpermitted emission units.

County Attainment Status

The source is located in Wayne County.

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

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 NOx emissions are considered when evaluating the rule applicability relating to ozone. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 Wayne 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**
 Wayne County has been classified as attainment or unclassifiable in Indiana for all other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by B & F Plastics, Inc. on July 1, 2010, relating to a source that manufacturers recycled rubber tire and thermoplastic products transitioning from an Exemption to a Registration.

The source currently consists of the following existing emission units (Exemption 177-15303-00103):

- (a) Four (4) natural gas-fired space heaters, identified as Heater 1 - Heater 4. Three of the space heaters have a maximum heat input capacity of 0.234 million Btu per hour each and the other space heater has a maximum heat input capacity of 0.195 million Btu per hour.
- (b) Twelve (12) extruders: Extruders 1, 2, 5, 6, 8, 10, and 12 each have a maximum capacity of 400 pounds of plastic per hour. Extruders 3, 4, 7, and 9 each have a maximum capacity of 500

pounds of plastic per hour and Extruder 11 has a maximum capacity of 800 pounds of plastic per hour, using no control, exhausting inside.

- (c) Six (6) grinders: Grinders 1, 3, 4, 5, and 6 each have a maximum capacity of 1,000 pounds of plastic per hour. Grinder 2 has a maximum capacity of 500 pounds of plastic per hour, using a cyclone with bag filters as control, exhausting outside to the atmosphere .
- (d) One (1) pelletizer that has a maximum capacity of 400 pounds per hour.
- (e) Twelve (12) hoppers.
- (f) Three (3) day bins.
- (g) Three (3) resin storage silos.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted emission units:

- (a) Four (4) extruders, identified as Extruders 11, 13, 14 and 16. Extruders 11, 13 and 14 have a maximum capacity of 500 pounds per hour, and extruder 16 has a maximum capacity of 2000 pounds per hour, using no control, exhausting inside.
- (b) Eleven (11) grinders, identified as Grinders 7-15. Grinders 7 and 9 have a maximum capacity of 50 pounds per hour, grinders 8 and 10 have a maximum capacity of 40 pounds and grinders 11-15 have a maximum capacity of 50 pounds per hour, using a cyclone with bag filters as control, exhausting outside to the atmosphere.
- (c) Three (3) molders, identified as Molders 1, 2 and 3, have a maximum capacity of 500 pounds each, using no control.
- (d) One (1) Cut-off Saw, identified as Saw 1, has a maximum capacity of 1000 pounds per hour, using no control.
- (e) Fifteen (15) natural gas-fired space heaters, identified as Heater 5 - Heater 19. Heaters 5, 6, 7, 8, 11, 12, 14, 15, 16, 17, and 18 have a maximum heat input capacity of 0.234 million Btu per hour each and the remaining space heaters 9, 10, 13, and 19 have a maximum heat input capacity of 0.195 million Btu per hour.

Permitted Emission Units and Pollution Control Equipment as written in this Registration

- (a) Plant 1 consisting of:
 - (1) Ten (10) extruders, identified as Extruders 1 through 10, constructed prior to 2002. Extruders 1, 2, 5, 6, 8, and 10 each have a maximum capacity of 400 pounds of plastic per hour. Extruders 3, 4, 7 and 9 have a maximum capacity of 500 pounds of plastic per hour, each, using no control, exhausting inside.
 - (2) Ten (10) grinders, identified as Grinders 1 through 10. Grinders 1 through 6 were constructed prior to 2002 and grinders 7 through 10 were approved for construction in 2010. Grinders 1, 2, 5, 6, 8 and 10 each have a maximum capacity of 40 pounds of plastic per hour. Grinders 3, 4, 7, and 9 each have a maximum capacity of 50 pounds of plastic per hour, each, using a cyclone with bag filters as control, exhausting outside to the atmosphere.

- (3) Four (4) natural gas-fired space heaters, identified as Heaters 1-4, constructed prior to 2002. Heater 1 has a maximum heat input capacity of 0.195 million Btu per hour and Heaters 2, 3 and 4 have a maximum heat input capacity of 0.234 million Btu per hour each.
 - (4) Five (5) resin storage silos, identified as Silos 1, 2, 3, 4 and 5, Silos 1, 2 and 3 were constructed prior to 2002, and silos 4 and 5 were approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (b) Plant 2 consisting of:
- (1) Four (4) extruders, identified as Extruders 11,12, 13 and 14, extruder 12 was constructed prior to 2002, and extruders 12, 13 and 14 were approved for construction in 2010, with a maximum capacity of 500 pounds of plastic per hour, each, with no control, exhausting inside.
 - (2) Five (5) grinders, identified as Grinders 11, 12, 13, 14 and 15, approved for construction in 2010, with a maximum capacity of 50 pounds of plastic per hour, each, using a cyclone with bag filters as control, exhausting outside to the atmosphere.
 - (3) Five (5) natural gas-fired space heaters, identified as Heaters 5-9, approved for construction in 2010. Heaters 5, 6, 7, and 8 have a maximum heat input capacity of 0.234 million Btu per hour each and Heater 9 has a maximum heat input capacity of 0.195 million Btu per hour.
 - (4) Six (6) plastic resin storage silos, identified as Silos 6 through 11, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (c) Plant 3 consisting of:
- (1) One extruder, identified as Extruder 16, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour, with no control, exhausting inside.
 - (2) One (1) pellitizer, approved for construction in 2002, with a maximum capacity of 800 pounds of plastics per hour, with no control.
 - (3) One (1) grinder, identified as Line 16 Grinder, approved for construction in 2010, with a maximum capacity of 200 pounds of plastic per hour, using a cyclone with bag filters as control, exhausting outside to the atmosphere.
 - (4) Four (4) plastic resin storage silos, identified as Silos 12 through 15, approved for construction in 2010, with a maximum conveyance rate of 22,500 pounds per hour, each.
- (d) Building 600 consisting of:
- (1) Four (4) natural gas-fired space heaters, identified as Heaters 10-13, approved for construction in 2010. Heaters 10 and 13 have a maximum heat input capacity of 0.195 million Btu per hour, and Heaters 11 and 12 have a maximum heat input capacity of 0.234 million Btu per hour, each.

- (e) Building 608 consisting of:
- (1) One (1) grinder, identified as Grinder 608, approved for construction in 2010, with a maximum capacity of 2000 pounds of plastic per hour, using a cyclone with bag filters as control, exhausting outside to the atmosphere.
 - (2) Six (6) natural gas-fired space heaters, identified as Heaters 14 through 19, approved for construction in 2010. Heaters 14, 15, 16, 17 and 18 have a maximum heat input capacity of 0.234 million Btu per hour, each and Heater 19 has a maximum heat input capacity of 0.195 million Btu per hour.
- (f) Three (3) molders, identified as Molder 1, 2 and 3, approved for construction in 2010, with a maximum throughput of 500 pounds per hour, each, with no control.
- (g) One (1) cut-off saw, identified as Saw 1, approved for construction in 2010, with a maximum throughput of 1,000 pounds per hour, with no control.

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

- (1) There are no emission factors available in AP-42 or FIRE, for plastic grinding, therefore, particulate emissions (PM) from the grinders were characterized using the AP-42 emission factor Table 11.17-4 for Scalping screen and hammer mill (SCC 3-05-016-02).

IDEM has determined that these emission factors will provide a suitable conservative estimate. This emission factor is more consistent with the process. The grinders are more like granulators". The purpose is to reduce the size for reuse later in the process not to make it into a fine dust. Therefore, the alternative emission factors will be allowed, and testing will not be required to confirm their validity.

- (2) The emission factor for PM were taken from "Uncontrolled Emission Factor Listing for Criteria Air Pollutants, Vol. II Log Sawing (SCC 3-07-008-02) for the molders and cut-saw.

IDEM has used these emission factors in numerous OAQ permit reviews as an emission factor for plastic grinding, cutting and sawing. Therefore, the alternative emission factors will be allowed, and testing will not be required to confirm their validity.

- (3) The emission factor for polyethylene product storage was used because no factor exists for polypropylene for the plastic resin storage silos. The emission factor comes from AP-42 Table 6.6.2-1 Emission Factors for PET Process. B & F Plastics only stores the product, they do not manufacture plastic resin. The storage silos for Plant 1 & Plant 3, are mostly for polyethylene, in Plant 2 they store polypropylene which AP-42 doesn't have a polypropylene "product storage" emission factor. Using the EF for PET was used and there should not be any significant impact because of the structural/chemical differences between the two.

IDEM has accepted the use of these emission factors in numerous OAQ permit reviews as an

emission factor for plastic extrusion. Therefore, the alternative emission factors will be allowed and testing will not be required to confirm their validity.

- (4) There are no emission factors available in AP-42 or FIRE, for polyolefin composite, therefore the emission factors of polypropylene were used for the potential to emit for the extrusion process. Therefore, the emission factors for PM, VOCs and HAPs were taken from the Journal of Air and Waste Management Association, Volume 46, pages 569-580 - "Development of Emission Factors for Polyethylene Processing by Barlow, Contos, Holdren, Garrison, Harris & Janke.

Emission factors for Polypropylene Resin are from "Development of Emission Factors for Polypropylene Processing" by Adams, Bankston, Barlow, Holdren, Meyer & Marchesani from the Journal of Air and Waste Management Association, Volume 49, pages 49-56.

Emission factors for SBR Reprocessed Rubber are from an Unpublished Report from the Rubber Manufacturer's Association supplied by Ron Ryan with Research Triangle Park - OAQP.

The Compliance Data Section evaluated and accepted these alternate emission factors that were used as emission factor for plastic extrusion. Therefore, the alternative emission factors will be allowed and testing will not be required to confirm their validity.

Permit Level Determination – Registration

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

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
Extruders (Extruder 1 through 14 and 16) and Pellitizer	0.81	0.81	0.81	0.00	0.00	1.01	0.09	0.20	0.05 (Toulene)
Molders (Molders 1, 2 and 3) and cut- off saw	1.92	1.92	1.92	0.00	0.00	0.00	0.00	0.00	0.00
Grinders (Grinders 1 through 15, 608 Grinder and Line 16 Grinder	3.92	3.92	3.92	0.00	0.00	0.00	0.00	0.00	0.00
Storage Silos (Silos 1-15)	0.44	0.04	0.44	0.00	0.00	0.00	0.00	0.00	0.00
NG Space Heaters (Heaters 1 through 19)	0.14	0.14	0.14	0.01	1.86	0.10	1.56	0.04	0.00
Total PTE of Entire Source	7.23	7.23	7.23	0.010	1.86	1.11	1.65	0.24	0.05
Exemptions Levels	5	5	5	10	10	5	25	25	10
Registration Levels	25	25	25	25	25	25	100	25	10

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)								
	PM	PM10 *	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP
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".									

Criteria Pollutants

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of the uncontrolled/unlimited potential to emit PM, PM10 and PM2.5 are within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.

Hazardous Air Pollutants

- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.
- (b) This source is not subject to the requirements of 40 CFR 60, Subpart BBB – New Source Performance Standards for Rubber Tire Manufacturing because the source does not manufacture tires, it makes new products out of recycled tires.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.
- (d) This source is not subject to the requirements of 40 CFR Part 63, Subpart XXXX - National Emission Standards for Hazardous Air Pollutants (NESHAPs) - Rubber Tire Manufacturing (326 IAC 20) because the source does not manufacture tires and it does not have potential to emit hazardous air pollutants (HAP) at greater than 10 tons per year for a single HAP and greater than 25 tons per year for total HAPs.
- (e) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-5.1-2 (Registrations)
 Registration applicability is discussed under the Permit Level Determination – Registration section

above.

- (b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (c) 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.
- (d) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (e) 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.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.
- (g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

State Rule Applicability - Individual Facilities

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 particulate emissions from the source shall not exceed the pound per hour emission rate established as E in the following formula:

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

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

P = process weight rate in tons per hour

The emission rate E has been established for the units as follows:

Unit ID / Control Device	Process Weight Rate (ton/hour) (each)	Particulate Emission Limits (lb/hr) (each)	Particulate PTE without control (lb/hr) (each)
Extruder 1	0.2	1.39	0.009
Extruder 2	0.2	1.39	0.009
Extruder 3	0.25	1.62	0.000
Extruder 4	0.25	1.62	0.011
Extruder 5	0.2	1.39	0.000
Extruder 6	0.2	1.39	0.009
Extruder 7	0.25	1.62	0.011
Extruder 8	0.2	1.39	0.009
Extruder 9	0.25	1.62	0.015
Extruder 10	0.2	1.39	0.000
Extruder 11	0.25	1.62	0.013
Extruder 12	0.25	1.62	0.013
Extruder 13	0.25	1.62	0.013
Extruder 14	0.25	1.62	0.013
Extruder 16	1.00	4.10	0.043
Pellitizer	0.4	2.22	0.017
Grinder 1	0.02	0.30	0.012
Grinder 2	0.02	0.30	0.012
Grinder 3	0.025	1.62	0.015
Grinder 4	0.025	1.62	0.015
Grinder 5	0.02	0.30	0.012
Grinder 6	0.02	0.30	0.012
Grinder 7	0.025	1.62	0.015
Grinder 8	0.02	0.30	0.012
Grinder 9	0.025	1.62	0.015
Grinder 10	0.02	0.30	0.012
Grinder 11	0.025	1.62	0.015
Grinder 12	0.025	1.62	0.015
Grinder 13	0.025	1.62	0.015
Grinder 14	0.025	1.62	0.015
Grinder 15	0.025	1.62	0.015

Unit ID / Control Device	Process Weight Rate (ton/hour) (each)	Particulate Emission Limits (lb/hr) (each)	Particulate PTE without control (lb/hr) (each)
Grinder 608	1.0	4.1	1.162
Grinder Line 16	0.1	0.88	0.062

Note: Grinder Unit 15 is a back-up/auxiliary grinder. If the source wants to lighten the load on one of the other grinders, they will use it OR if one of the other grinders is down for repairs OR if the source receives outside throughput (shipped or transferred to Indiana), it goes through the unit 15 grinder.

The throughput from the Unit 14 Extruder is going to Unit 15 grinder, so unit 15 grinder would be counted in the PTE (it's the same model as the other grinders in Plant 2, so it can't accept more than that) since it is used, it is a safe over-assumption on PTE because the source isn't going to have throughput to the Unit 15 grinder 24/7.

The source is able to comply with the particulate emission limits without control as shown in the preceding table if you compare column three and four.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 1, 2010 and additional information submitted on July 8 and 15, August 6, 2010.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 177-29419-00103. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Janet Mobley 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) 234-5373 or toll free at 1-800-451-6027 extension 4-5373.
- (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.in.gov/idem

**Appendix A: Emission Calculations
Summary**

Company Name: **B & F Plastics, Inc.**
 Address City IN Zip: **540 North Eighth Street, Richmond, Indiana 47374**
 Permit No.: **177-29419-00103**
 Reviewer: **Janet Mobley**

Potential to Emit in tons/year

Unit	PM	PM ₁₀	PM 2.5	SO _x	NO _x	VOC	CO	Total HAPs	Single HAP
Extruders (Extruders 1 through 14, and 16) and Pellitizer	0.81	0.81	0.81	0.00	0.00	1.01	0.09	0.20	0.05 (Toulene)
Molders (Molders 1, 2 and 3) and Cut-saw	1.92	1.92	1.92	0.00	0.00	0.00	0.00	0.00	0.00
Grinders (Grinders 1 through 15, 608 Grinder and Line 16 Grinder	3.92	3.92	3.92	0.00	0.00	0.00	0.00	0.00	0.00
Storage Silos for Plastic Resin (Silos 1-15)	0.44	0.44	0.44	0.00	0.00	0.00	0.00	0.00	0.00
NG Space Heaters (Heaters 1 through 19)	0.14	0.14	0.14	0.01	1.86	0.10	1.56	0.04	0.00
Total	7.23	7.23	7.23	0.010	1.86	1.11	1.65	0.24	<10

PM,PM10=PM2.5

**Appendix A: Emission Calculations
Extruders -VOC, PM and CO**

**Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley**

Extruder	Max Throughput (lb/hr)	Component	Max Rate (lb/hr)	VOC			PM			CO		
				Emission Factor (lb/1,000,000 lb)	Emission Rate (lb/hr)	Emission Rate (tpy)	Emission Factor (lb/1,000,000 lb)	Emission Rate (lb/hr)	Emission Rate (tpy)	Emission Factor (lb/1,000,000 lb)	Emission Rate (lb/hr)	Emission Rate (tpy)
Plant 1												
1	400	Polyethylene Resin	400	9.3	0.004	0.016	21.7	0.009	0.038	0.0	0.000	0.000
2	400	Polyethylene Resin	400	9.3	0.004	0.016	21.7	0.009	0.038	0.0	0.000	0.000
3	500	SBR Reprocessed Rubber	500	12.3	0.006	0.027	0.00777	0.000	0.000	0.0	0.000	0.000
4	500	Polyethylene Resin	500	9.3	0.005	0.020	21.7	0.011	0.048	0.0	0.000	0.000
5	400	SBR Reprocessed Rubber	400	12.3	0.005	0.022	0.00777	0.000	0.000	0.0	0.000	0.000
6	400	Polyethylene Resin	400	9.3	0.004	0.016	21.7	0.009	0.038	0.0	0.000	0.000
7	500	Polyethylene Resin	500	9.3	0.005	0.020	21.7	0.011	0.048	0.0	0.000	0.000
8	400	Polyethylene Resin	400	9.3	0.004	0.016	21.7	0.009	0.038	0.0	0.000	0.000
9	500	Polyolefin Composite	500	104	0.052	0.228	30.3	0.015	0.066	0.0	0.000	0.000
10	400	SBR Reprocessed Rubber	400	12.3	0.005	0.022	0.00777	0.000	0.000	0.0	0.000	0.000
Plant 2												
11	500	Polyethylene Resin	250	9.3	0.002	0.010	21.7	0.005	0.024	0.0	0.000	0.000
		Polypropylene Resin	250	104	0.026	0.114	30.3	0.008	0.033	20.0	0.005	0.022
12	500	Polyethylene Resin	250	9.3	0.002	0.010	21.7	0.005	0.024	0.0	0.000	0.000
		Polypropylene Resin	250	104	0.026	0.114	30.3	0.008	0.033	20.0	0.005	0.022
13	500	Polyethylene Resin	250	9.3	0.002	0.010	21.7	0.005	0.024	0.0	0.000	0.000
		Polypropylene Resin	250	104	0.026	0.114	30.3	0.008	0.033	20.0	0.005	0.022
14	500	Polyethylene Resin	250	9.3	0.002	0.010	21.7	0.005	0.024	0.0	0.000	0.000
		Polypropylene Resin	250	104	0.026	0.114	30.3	0.008	0.033	20.0	0.005	0.022
Plant 3												
16	2000	Polyethylene Resin	2000	9.3	0.019	0.081	21.7	0.043	0.190	0.0	0.000	0.000
	800	Polyethylene Resin	800	9.3	0.007	0.033	21.7	0.017	0.076	0.0	0.000	0.000
TOTAL						1.014		0.807			0.088	

Methodology

See page 4 of calculations

**Appendix A: Emission Calculations
Extruders - HAPs**

Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley

HAP	PE Resin	Emission Factor (lb/10 ⁶ lbs)	SBR Rubber	Emission Factor (lb/10 ⁶ lbs)	PP Resin	Emission Factor (lb/10 ⁶ lbs)
Formaldehyde		0.04		0.00		0.74
Acrolein		0.02		0.31		0.01
Acetaldehyde		0.03		0.00		0.46
Propionaldehyde		0.02		0.00		0.05
Methyl Ethyl Ketone		0.02		0.00		0.19
Acrylic Acid		0.02		0.00		0.08
Acetophenone		0.00		3.32		0.00
Cumene		0.00		0.14		0.00
Methylene Chloride		0.00		13.2		0.00
Naphthalene		0.00		1.98		0.00
Propylene Oxide		0.00		1.75		0.00
Toluene		0.00		9.26		0.00
4-Methyl-2-pentanone		0.00		2.66		0.00

Extruder	Max Throughput (lb/hr)	Component	Max Rate (lb/hr)	HAPs						
				Formaldehyde (tpy)	Acrolein (tpy)	Acetaldehyde (tpy)	Propionaldehyde (tpy)	Methyl Ethyl Ketone (tpy)	Acrylic Acid (tpy)	Acetophenone (tpy)
Plant 1										
1	400	Polyethylene Resin	400	7.01E-05	3.50E-05	5.26E-05	3.50E-05	3.50E-05	3.50E-05	0.00E+00
2	400	Polyethylene Resin	400	7.01E-05	3.50E-05	5.26E-05	3.50E-05	3.50E-05	3.50E-05	0.00E+00
3	500	SBR Reprocessed Rubber	500	0.00E+00	6.79E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-03
4	500	Polyethylene Resin	500	8.76E-05	4.38E-05	6.57E-05	4.38E-05	4.38E-05	4.38E-05	0.00E+00
5	400	SBR Reprocessed Rubber	400	0.00E+00	5.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.82E-03
6	400	Polyethylene Resin	400	7.01E-05	3.50E-05	5.26E-05	3.50E-05	3.50E-05	3.50E-05	0.00E+00
7	500	Polyethylene Resin	500	8.76E-05	4.38E-05	6.57E-05	4.38E-05	4.38E-05	4.38E-05	0.00E+00
8	400	Polyethylene Resin	400	7.01E-05	3.50E-05	5.26E-05	3.50E-05	3.50E-05	3.50E-05	0.00E+00
9	500	Polyolefin Composite	500	8.76E-05	4.38E-05	6.57E-05	4.38E-05	4.38E-05	4.38E-05	0.00E+00
10	400	SBR Reprocessed Rubber	400	0.00E+00	5.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.82E-03
Plant 2										
11	500	Polyethylene Resin	250	4.38E-05	2.19E-05	3.29E-05	2.19E-05	2.19E-05	2.19E-05	0.00E+00
		Polypropylene Resin	250	8.10E-04	1.10E-05	5.04E-04	5.48E-05	2.08E-04	8.76E-05	0.00E+00
12	500	Polyethylene Resin	250	4.38E-05	2.19E-05	3.29E-05	2.19E-05	2.19E-05	2.19E-05	0.00E+00
		Polypropylene Resin	250	8.10E-04	1.10E-05	5.04E-04	5.48E-05	2.08E-04	8.76E-05	0.00E+00
13	500	Polyethylene Resin	250	4.38E-05	2.19E-05	3.29E-05	2.19E-05	2.19E-05	2.19E-05	0.00E+00
		Polypropylene Resin	250	8.10E-04	1.10E-05	5.04E-04	5.48E-05	2.08E-04	8.76E-05	0.00E+00
14	500	Polyethylene Resin	250	4.38E-05	2.19E-05	3.29E-05	2.19E-05	2.19E-05	2.19E-05	0.00E+00
		Polypropylene Resin	250	8.10E-04	1.10E-05	5.04E-04	5.48E-05	2.08E-04	8.76E-05	0.00E+00
Plant 3										
16	2000	Polyethylene Resin	2000	3.50E-04	1.75E-04	2.63E-04	1.75E-04	1.75E-04	1.75E-04	0.00E+00
Pelltizer	800	Polyethylene Resin	800	1.40E-04	7.01E-05	1.05E-04	7.01E-05	7.01E-05	7.01E-05	0.00E+00
TOTAL				0.0045	0.0024	0.0029	0.0008	0.0014	0.0010	0.0189

Methodology
See page 4

Appendix A: Emission Calculations
Extruders HAPs continued

Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley

Extruder	Max Throughput (lb/hr)	Component	Max Rate (lb/hr)	HAPs continued					
				Cumene (tpy)	Methylene Chloride (tpy)	Napthalene (tpy)	Propylene Oxide (tpy)	Toluene (tpy)	4-Methyl-2-pentanone (tpy)
Plant 1									
1	400	Polyethylene Resin	400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	400	Polyethylene Resin	400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	500	SBR Reprocessed Rubber	500	3.07E-04	2.89E-02	4.34E-03	3.83E-03	2.03E-02	5.83E-03
4	500	Polyethylene Resin	500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	400	SBR Reprocessed Rubber	400	2.45E-04	2.31E-02	3.47E-03	3.07E-03	1.62E-02	4.66E-03
6	400	Polyethylene Resin	400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	500	Polyethylene Resin	500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	400	Polyethylene Resin	400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
9	500	Polyolefin Composite	500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
10	400	SBR Reprocessed Rubber	400	2.45E-04	2.31E-02	3.47E-03	3.07E-03	1.62E-02	4.66E-03
Plant 2									
11	500	Polyethylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Polypropylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
12	500	Polyethylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Polypropylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
13	500	Polyethylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Polypropylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
14	500	Polyethylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Polypropylene Resin	250	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Plant 3									
16	2000	Polyethylene Resin	2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	800	Polyethylene Resin	800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL				0.0008	0.0752	0.0113	0.0100	0.0527	0.0151

Methodology

Emission Factors for Polyethylene Resin are from "Development of Emission Factors for Polyethylene Processing" by Barlow, Contos, Holdren, Garrison, Harris, & Janke J. Air & Waste Manage. Assoc. 46: 569-580.

Emission Factors for Polypropylene Resin are from "Development of Emission Factors for Polypropylene Processing" by Adams, Bankston, Barlow, Holdren, Meyer, & Marchesani J. Air & Waste Manage. Assoc. 49: 49-56.

Emission Factors for SBR Reprocessed Rubber are from an Unpublished Report from the Rubber Manufacturer's Association supplied by Ron Ryan with Research Triangle Park - OAQP

Emission Factors were not found for Polyolefin Composite; thus Emission Factors of Polypropylene were used as a worst-case scenario

The source confirmed that the resins and process they use are the same as those cited in the articles.

These alternate emission factors used in these calculations were evaluated and accepted for this source by the Compliance Data Section.

Emission Rate (lb/hr) = Max Rate (lb/hr) / 1,000,000 x Emission Factor (lb/1,000,000 lbs)

Emission Rate (tpy) = Emission Rate (lb/hr) x 8,760 hours per year x 2,000 lbs per ton

Potential to Emit from Molders and Saw
Molders and Cut-Saw
Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley

Molder	Throughput (lbs/hr)	Emission Factor (lbs/ton)	Control Efficiency	PM Emissions (lb/hr)	PM Emissions (tpy)	PTE PM (control - not integral to the process)
1	500	0.35	97%	0.003	0.011	0.38325
2	500	0.35	97%	0.003	0.011	0.38325
3	500	0.35	97%	0.003	0.011	0.38325
Cut-Saw						
1	1000	0.35	97%	0.005	0.023	0.7665
TOTAL					0.057	1.91625

Methodology

Emission Factor is from "Uncontrolled Emission Factor Listing for Criteria Air Pollutants" VOL II Log Sawing (scc 3-07-008-02)

PM Emissions (lb/hr) = Throughput (lb/hr) x Emission Factor / 2,000 lbs per ton

PM Emissions (tpy) = PM Emissions (lb/hr) x 8,760 hrs per year / 2,000 lbs per ton

Appendix A: Emission Calculations

Grinders

Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit Number: 177-29419-00103
Reviewer: Janet Mobley

Grinders	Max. Throughput (lb/hr)	Emission Factor (lb/ton)	PM PTE (tpy)
Plant 1			
1	40	0.62	0.05
2	40	0.62	0.05
3	50	0.62	0.07
4	50	0.62	0.07
5	40	0.62	0.05
6	40	0.62	0.05
7	50	0.62	0.07
8	40	0.62	0.05
9	50	0.62	0.07
10	40	0.62	0.05
Plant 2			
11	50	0.62	0.07
12	50	0.62	0.07
13	50	0.62	0.07
14	50	0.62	0.07
15	50	0.62	0.07
608			
608 Grinder	2000	0.62	2.72
Plant 3			
Line 16 Grinder	200	0.62	0.27
TOTAL			3.92

Methodology

The emission factor comes from AP-42 Table 11.17-4 Scalping screen and hammer mill (scc 3-05-016-02).

This emission factor was used because no plastic grinding emission factor exists.

This emission factor is more consistent with the process at this source. The grinders are more like "granulators".

The purpose is to reduce the size for reuse later in the process not to make it into a fine dust.

Max. Throughput (lb/hr) = Max. Throughput (lb/hr) of relevant extruder x percent Extruder throughput

PM PTE (tpy) = Max. Throughput (lb/hr) / 2,000 lbs per ton x Emission Factor (lb/ton) x 8,760 hours per year x 2,000 lbs per ton

Note: Grinder 15 is a backup/auxiliary grinder used minimally but to account for the PTE for the grinder, throughput from Unit 14 extruder is going to Grinder 15.

Appendix A: Emission Calculations
Potential to Emit for Plastic Resin Storage Silos
Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley

Storage Silos	Conveyance Rate (lbs/hr)	Emission Factor (g/kg)	PTE (lbs/hr)	PTE (tpy)
Plant 1				
1	22,500	0.0003	0.01	0.03
2	22,500	0.0003	0.01	0.03
3	22,500	0.0003	0.01	0.03
4	22,500	0.0003	0.01	0.03
5	22,500	0.0003	0.01	0.03
Plant 2				
6	22,500	0.0003	0.01	0.03
7	22,500	0.0003	0.01	0.03
8	22,500	0.0003	0.01	0.03
9	22,500	0.0003	0.01	0.03
10	22,500	0.0003	0.01	0.03
11	22,500	0.0003	0.01	0.03
Plant 3				
12	22,500	0.0003	0.01	0.03
13	22,500	0.0003	0.01	0.03
14	22,500	0.0003	0.01	0.03
15	22,500	0.0003	0.01	0.03
TOTAL				0.44

Methodology

Emission Factor comes from AP-42 Table 6.6.2-1 Emission Factors for PET Process

Emission Factor for Polyethylene Product Storage because no factor for Polypropylene exists

The source only stores the product, they do not manufacture plastic resin. The storage silos for Plant 1 & 3 are mostly for polyethylene, and Plant 2 stores polypropylene which AP42 doesn't have that emission factor. There shouldn't be any significant impact because of the structural or chemical differences between the two.

PTE (tpy) = Max Storage (lbs) x Emission Factor (g/kg) x .453924 kilograms per pound / 453.924 grams per pound / 2,000 lbs per ton

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Heaters**

**Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit Number: 177-29419-00103
Reviewer: Janet Mobley**

Space Heaters							
Plant 1	Max. Heat Input (MMBth/hr)	Plant 2	Max. Heat Input (MMBth/hr)	Bldg. 600	Max. Heat Input (MMBth/hr)	Bldg. 608	Max. Heat Input (MMBth/hr)
1	0.195	5	0.234	10	0.195	14	0.234
2	0.234	6	0.234	11	0.234	15	0.234
3	0.234	7	0.234	12	0.234	16	0.234
4	0.234	8	0.234	13	0.195	17	0.234
		9	0.195			18	0.234
						19	0.195

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

4.251

37.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NO _x	VOC	CO
	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.14	0.14	0.01	1.86	0.10	1.56

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

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

Methodology

All Emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF - 1,000,000 Cubic Feet of Gas

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

Emission Factors 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)

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

**Appendix A: Emission Calculations
Natural Gas Combustion Only
MMBTU/HR<100
Heaters**

**Company Name: B & F Plastics, Inc.
Address City IN Zip: 540 North Eighth Street, Richmond, Indiana 47374
Permit No.: 177-29419-00103
Reviewer: Janet Mobley**

HAPs - Organics

Emission Factor in lb/MMCF	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	0.000	0.000	0.001	0.034	0.000

HAPs - Metals

Emission Factor in lb/MMCF	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	0.000	0.000	0.000	0.000	0.000

Total HAPs =

0.035 tpy

Methodology is the same as previous page.

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



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: Bruce Upchurch
B & F Plastics, Inc.
540 N 8th St
Richmond, IN 47374

DATE: August 24, 2010

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

SUBJECT: Final Decision
Registration
177-29419-00103

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:
Adam Estas, Consultant, Cornerstone Environmental
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

Mail Code 61-53

IDEM Staff	DPABST 8/24/2010 B & F Plastics, Inc. 177-29419-00103 (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		Bruce Upchurch B & F Plastics, Inc. 540 N 8th St Richmond IN 47374-2304 (Source CAATS) (CONFIRM DELIVERY)									
2		Mr. Patrick Adkins 2894 S 950 E Hagerstown IN 47346 (Affected Party)									
3		Mr. Thomas Lee Clevenger 4005 South Franks Lane Selma IN 47383 (Affected Party)									
4		Wayne County Commissioners 401 East Main Street Richmond IN 47374 (Local Official)									
5		Mr. Randall Shrock 2764 Abington Pike Richmond IN 47374 (Affected Party)									
6		Wayne County Health Department 401 E. Main Street Richmond IN 47374-4388 (Health Department)									
7		Adam Estas Cornerstone Environmental, Health & Safety, Inc. 880 Lennox Court Zionsville IN 46077 (Consultant)									
8		Mosey Manufacturing 262 Fort Wayne Avenue Richmond IN 47374 (Affected Party)									
9		Richmond Furniture Gallery 180 Fort Wayne Avenue Richmond IN 47374 (Affected Party)									
10		Richmond Baking Company 520 N 6th Street Richmond IN 47374 (Affected Party)									
11		Resident 1033 South 8th Street Richmond IN 47374 (Affected Party)									
12		Resident 1035 South 8th Street Richmond IN 47374 (Affected Party)									
13		Resident 1039 South 8th Street Richmond IN 47374 (Affected Party)									
14		Resident 1100 South 9th Street Richmond IN 47374 (Affected Party)									
15		Resident 1106 South 9th Street Richmond IN 47374 (Affected Party)									

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IDEM Staff	DPABST 8/24/2010 B & F Plastics, Inc. 177-29419-00103 (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		Resident 1110 South 9th Street Richmond IN 47374 (Affected Party)										
2		Resident 1115 South 8th Street Richmond IN 47374 (Affected Party)										
3		Resident 1117 South 8th Street Richmond IN 47374 (Affected Party)										
4		Resident 1120 South 9th Street Richmond IN 47374 (Affected Party)										
5		Resident 1125 South 8th Street Richmond IN 47374 (Affected Party)										
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Total number of pieces Listed by Sender	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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