



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: June 21, 2007
RE: U.S. Granules Corporation / 099-13894-00015
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot 03/23/06



Mitchell E. Daniels, Jr.
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Thomas W. Easterly
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 Indianapolis, Indiana 46204-2251
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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**U.S. Granules Corporation
 1433 Western Avenue
 Plymouth, Indiana 46563**

(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.

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.

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. This permit also addresses certain new source review requirements for existing equipment, and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

Operation Permit No.: F 099-13894-00015	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: June 21, 2007 Expiration Date: June 21, 2012

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- D.2.4 Particulate Control

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

- D.2.5 Visible Emissions Notations
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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 foil recovery source utilizing clean, pre-consumer factory overruns of laminated aluminum foil.

Source Address:	1433 Western Avenue, Plymouth, IN 46563
Mailing Address:	P.O. Box 130, Plymouth, Indiana 46563
General Source Phone Number:	574-936-2146
SIC Code:	3399
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Not 1 of 28 Source Categories

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

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

- (a) One (1) IDEX System, consisting of a rotary pyrolysis kiln, and a secondary combustion chamber that conditions air for the pyrolysis kiln, constructed in 1995, equipped with a baghouse, identified as the IDEX System Baghouse, with a flow rate of 27,330 actual cubic feet per minute, capacity: 4.0 tons of laminated aluminum foil per hour.
- (b) One (1) A Line Pneumatic Conveyor System, Segment No. 1 approved for construction in 2007, and Segment No. 2 constructed in 1970, controlled by a two (2) baghouses, identified as the A Line Conveyor System Segment No. 1 Baghouse, with a flow rate of 8,000 actual cubic feet per minute, and the A Line Conveyor System Segment No. 2 Baghouse, with a flow rate of 4,300 actual cubic feet per minute, total capacity for both segments: 1.70 tons of aluminum foil per hour.
- (c) One (1) C Line Separator, constructed in 1970, controlled by a baghouse, identified as the C Line Separator Baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.
- (d) Two (2) D Line Separators, constructed in 1987, controlled by a baghouse, identified as the D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.
- (e) One (1) Aluminum Blending, Loading and Packaging Process No. 1, constructed in 1966, controlled by a baghouse, identified as the Aluminum Blender No. 1 Baghouse, which is integral to the process, with a flow rate of 4,000 actual cubic feet per minute, capacity: 3.0 tons of aluminum granules per hour.
- (f) One (1) Aluminum Blending and Loading Process No. 2, constructed in 1991, controlled by a baghouse, identified as the Aluminum Blender No. 2 Baghouse, which is integral to the process, with a flow rate of 4,600 actual cubic feet per minute, capacity: 5.0 tons of

aluminum granules per hour.

- (g) One (1) Briquetting and Packaging Process, constructed in 1991, controlled by a baghouse, identified as the Briquetting and Packaging Baghouse, that is integral to the process, with a maximum flow rate of 1,800 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.
- (h) One (1) Emergency D Line Separator (emergency backup, only to be used when the D Line Separators are down), constructed in 2006, controlled by a baghouse, identified as the Emergency D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.

A.3 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, F 099-13894-00015, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ , upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

B.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]

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. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

- (a) Where specifically designated by this permit or required by an applicable requirement, any

application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

B.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, and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

Northern Regional Office phone: 574-245-4870; Fax 574-245-4877

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(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 the certification 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.

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

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

- (a) All terms and conditions of permits established prior to F 099-13894-00015 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 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.16 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 the certification 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.17 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by 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.19 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(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 in 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.20 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]

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.22 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:

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

The application which shall be submitted by the Permittee does require the certification by 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.23 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, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-8-4(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 of PM₁₀, VOC and CO from the entire source shall be limited to less than one hundred (100) tons each, 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.

(b) The 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 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

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

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

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

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

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

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

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

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

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

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

C.9 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

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

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later

than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within sixty (60) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within sixty (60) days, the Permittee may extend the compliance schedule related to the equipment for an additional sixty (60) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by 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.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(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.14 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.15 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records;
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.16 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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess

emissions from the affected facility while the response actions are being implemented.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

C.17 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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.18 General Reporting Requirements [326 IAC 2-8-4(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. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) 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.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

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

- (a) One (1) IDEX System, consisting of a rotary pyrolysis kiln, and a secondary combustion chamber that conditions air for the pyrolysis kiln, constructed in 1995, equipped with a baghouse, identified as the IDEX System Baghouse, with a flow rate of 27,330 actual cubic feet per minute, capacity: 4.0 tons of laminated aluminum foil 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 2-8-4(1)]

D.1.1 PSD and Part 70 Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

- (a) PM₁₀ emissions from the IDEX System shall not exceed 10.4 pounds per hour. Compliance with this limit will ensure that PM₁₀ emissions from all facilities at the source, including insignificant activities and fugitives, are less than 100 tons per year.
- (b) PM emissions from the IDEX System shall not exceed 10.4 pounds per hour. Compliance with this limit will ensure that PM emissions from all facilities at the source, including insignificant activities, are less than 250 tons per year.

Compliance with the above limits, and the limits in Condition D.2.1, including potential PM and PM₁₀ emissions from insignificant activities, will render 326 IAC 2-2 and provisions of 326 IAC 2-7 not applicable to this source.

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

Pursuant to 326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the IDEX System shall not exceed 10.4 pounds per hour when operating at a process weight rate of 4.0 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

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

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

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the IDEX System, shall be performed within five (5) years from the last stack test of June 8, 2004, which is June 8, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.

D.1.5 Particulate Control

- (a) In order to comply with Conditions D.1.1 and D.1.2, the baghouse dust collector for particulate control on the IDEX System shall be in operation and control emissions at all times that the IDEX System is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.1.6 Visible Emissions Notations

- (a) Visible emission notations of the IDEX System baghouse stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.7 Baghouse Parametric Monitoring [326 IAC 2-8-5(1)] [326 IAC 2-8-4(1)]

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the IDEX System, at least once per day when the IDEX System is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. 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).

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

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

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

D.1.9 Record Keeping Requirements

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain a daily record of visible emission notations of the IDEX System baghouse 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 visible emission notation (e.g. the process did not operate that day).
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain a daily record of the pressure drop across the baghouse controlling the IDEX System. 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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

D.1.10 NESHAP Subpart RRR Requirements [40 CFR Part 63, Subpart RRR] [326 IAC 20-70]

In the event that either U.S. Granules or its customers begin to melt the aluminum recovered from the IDEX System, U.S. Granules shall apply to the Office of Air Quality for FESOP revision to implement the requirements of 40 CFR Part 63, Subpart RRR.

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: Conveying, Blending and Bagging

- (b) One (1) A Line Pneumatic Conveyor System, Segment No. 1 approved for construction in 2007, and Segment No. 2 constructed in 1970, controlled by a two (2) baghouses, identified as the A Line Conveyor System Segment No. 1 Baghouse, with a flow rate of 8,000 actual cubic feet per minute, and the A Line Conveyor System Segment No. 2 Baghouse, with a flow rate of 4,300 actual cubic feet per minute, total capacity for both segments: 1.70 tons of aluminum foil per hour.
- (c) One (1) C Line Separator, constructed in 1970, controlled by a baghouse, identified as the C Line Separator Baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.
- (d) Two (2) D Line Separators, constructed in 1987, controlled by a baghouse, identified as the D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.
- (e) One (1) Aluminum Blending, Loading and Packaging Process No. 1, constructed in 1966, controlled by a baghouse, identified as the Aluminum Blender No. 1 Baghouse, which is integral to the process, with a flow rate of 4,000 actual cubic feet per minute, capacity: 3.0 tons of aluminum granules per hour.
- (f) One (1) Aluminum Blending and Loading Process No. 2, constructed in 1991, controlled by a baghouse, identified as the Aluminum Blender No. 2 Baghouse, which is integral to the process, with a flow rate of 4,600 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.
- (g) One (1) Briquetting and Packaging Process, constructed in 1991, controlled by a baghouse, identified as the Briquetting and Packaging Baghouse, that is integral to the process, with a maximum flow rate of 1,800 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.
- (h) One (1) Emergency D Line Separator (emergency backup, only to be used when the D Line Separators are down), constructed in 2006, controlled by a baghouse, identified as the Emergency D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil 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 2-8-4(1)]

D.2.1 PSD and Part 70 Minor Limitations [326 IAC 2-8-4] [326 IAC 2-2]

- (a) The PM₁₀ emissions from the Conveying, Blending and Bagging Processes shall be limited as follows to satisfy the requirements of 326 IAC 2-8-4.
 - (1) PM₁₀ emissions from the A Line Pneumatic Conveyor System, Segments 1 and 2, shall not exceed 5.85 pounds per hour.
 - (2) PM₁₀ emissions from the C Line Separator, shall not exceed 2.00 pounds per hour.
 - (3) PM₁₀ emissions from the two (2) D Line Separators shall not exceed 1.26 pounds per hour.

- (4) PM₁₀ emissions from the Aluminum Blending, Loading and Packaging Process No. 1 shall not exceed 0.80 pounds per hour.
 - (5) PM₁₀ emissions from the Aluminum Blending and Loading Process No. 2 shall not exceed 0.80 pounds per hour.
 - (6) PM₁₀ emissions from the Briquetting and Packaging Process shall not exceed 0.80 pounds per hour.
 - (7) PM₁₀ emissions from the Emergency D Line Separator shall not exceed 2.00 pounds per hour. This process shall only operate when the D Line Separators are not in service.
 - (8) As a result of the above limits and the limit from Condition D.1.1(a), PM₁₀ emissions from all facilities at the source, including insignificant activities and fugitives, will be less than 100 tons per year. Therefore, the requirements of 326 IAC 2-7 and 326 IAC 2-2 do not apply.
- (b) The PM emissions from the Conveying, Blending and Bagging Processes shall be limited as follows:
- (1) PM emissions from the A Line Pneumatic Conveyor System, Segments 1 and 2, shall not exceed 5.85 pounds per hour.
 - (2) PM emissions from the C Line Separator, shall not exceed 2.00 pounds per hour.
 - (3) PM emissions from the two (2) D Line Separators shall not exceed 1.26 pounds per hour.
 - (4) PM emissions from the Aluminum Blending, Loading and Packaging Process No. 1 shall not exceed 0.80 pounds per hour.
 - (5) PM emissions from the Aluminum Blending and Loading Process No. 2 shall not exceed 0.80 pounds per hour.
 - (6) PM emissions from the Briquetting and Packaging Process shall not exceed 0.80 pounds per hour.
 - (7) PM emissions from the Emergency D Line Separator shall not exceed 2.00 pounds per hour. This process shall only operate when the D Line Separators are not in service.
 - (8) As a result of the above limits and the limit from Condition D.1.1(b), PM emissions from all facilities at the source, including insignificant activities, will be less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 do not apply.

D.2.2 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes), the particulate from the:

- (a) A Line Pneumatic Conveyor System, Segment No. 1, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.70 tons per hour.
- (b) A Line Pneumatic Conveyor System, Segment No. 2, shall not exceed 5.85 pounds per hour,

when operating at a process weight rate of 1.70 tons per hour.

- (c) C Line Separator, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.7 tons per hour.
- (d) Two (2) D Line Separators shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour.
- (e) Aluminum Blending, Loading and Packaging Process No. 1 shall not exceed 8.56 pounds per hour, when operating at a process weight rate of 3.0 tons per hour.
- (e) PM emissions from the Aluminum Blending and Loading Process No. 2 shall not exceed 12.1 pounds per hour, when operating at a process weight rate of 5.0 tons per hour.
- (g) PM emissions from the Briquetting and Packaging Process shall not exceed 12.1 pounds per hour, when operating at a process weight rate of 5.0 tons per hour.
- (h) PM emissions from the Emergency D Line Separator shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour. This process shall only operate when the D Line Separators are not in service.

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

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

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

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.2.4 Particulate Control

- (a) In order to comply with Conditions D.2.1 and D.2.2, the baghouse dust collectors for particulate control shall be in operation and control emissions from the A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator at all times that these facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.2.5 Visible Emissions Notations

- (a) Visible emission notations of the A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and

Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator baghouse stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.6 Baghouse Parametric Monitoring [326 IAC 2-8-5(1)] [326 IAC 2-8-4(1)]

The Permittee shall record the pressure drop across the baghouses used in conjunction with the A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator, at least once per day when these processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of operation indicated below, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The normal range of operation for each baghouse is as follows:

- (a) A Line Pneumatic Conveyor System Segment No. 1, 1.0 to 8.0 inches of water
- (b) A Line Pneumatic Conveyor System Segment No. 2, 1.0 to 8.0 inches of water
- (c) C Line Separator, 1.0 to 6.0 inches of water
- (d) Two (2) D Line Separators, 1.0 to 8.0 inches of water
- (e) Aluminum Blending, Loading and Packaging Process No. 1, 1.0 to 8.0 inches of water
- (f) Aluminum Blending, Loading and Packaging Process No. 2, 1.0 to 8.0 inches of water
- (g) Briquetting and Packaging Process, 1.0 to 8.0 inches of water
- (h) Emergency D Line Separator, 1.0 to 6.0 inches of water

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

D.2.7 Broken or Failed Bag Detection

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

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

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

D.2.8 Record Keeping Requirements

- (a) To document compliance with Condition D.2.5, the Permittee shall maintain a daily record of visible emission notations of the A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator baghouse stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) To document compliance with Condition D.2.6, the Permittee shall maintain a daily record of the pressure drop on the A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator baghouses during normal operation when venting to the atmosphere. 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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: U.S. Granules Corporation
Source Address: 1433 Western Avenue, Plymouth, Indiana 46563
Mailing Address: P.O. Box 130, Plymouth, Indiana 46563
FESOP No.: F 099-13894-00015

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

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

Source Name: U.S. Granules Corporation
Source Address: 1433 Western Avenue, Plymouth, Indiana 46563
Mailing Address: P.O. Box 130, Plymouth, Indiana 46563
FESOP No.: F 099-13894-00015

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <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: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: U.S. Granules Corporation
Source Address: 1433 Western Avenue, Plymouth, Indiana 46563
Mailing Address: P.O. Box 130, Plymouth, Indiana 46563
FESOP No.: F 099-13894-00015

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked ΔNo 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: _____

A certification is not required for this report.

Indiana Department of Environmental Management Office of Air Quality

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

Source Name:	U.S. Granules Corporation
Source Location:	1433 Western Avenue, Plymouth, Indiana 46563
County:	Marshall
SIC Code:	3399
Operation Permit No.:	F 099-5463-00015
Operation Permit Issuance Date:	December 11, 1996
Permit Renewal No.:	F 099-13894-00015
Permit Reviewer:	Patrick Brennan/MES

On November 17, 2006, the Office of Air Quality (OAQ) had a notice published in the Plymouth Pilot News, Plymouth, Indiana, stating that U.S. Granules Corporation had applied for a Federally Enforceable State Operating Permit Renewal (FESOP) to operate a stationary aluminum foil recovery source using baghouses for air pollution control. The notice also stated that OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed FESOP Renewal 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 FESOP Renewal should be issued as proposed.

On December 15, 2006, March 30 and April 25, 2007, Randy Martin of Randy Martin & Associates submitted comments and additional information on behalf of U.S. Granules on the proposed FESOP Renewal. The comments are as follows (the permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**):

Comment 1:

U.S. Granules submitted a comment stating that no equipment at the source meets the definitions of 40 CFR 63, Subpart RRR, National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, that they are not a secondary aluminum processing source according to U.S. EPA criteria, and are therefore not one of the twenty-eight named source categories in 326 IAC 2-2. U.S. Granules had earlier requested an opinion from U.S. EPA regarding this matter, and also submitted a letter from Michael S. Alushin, Director, U.S. EPA Compliance Assessment and Media Programs Division, Office of Compliance, stating that they are not currently subject to the Secondary Aluminum Production NESHAP.

Response 1:

In an interpretative rule published in the Federal Register on October 1, 2004 (69 FR 58837) the U.S. EPA ruled that a delamination chamber of the type operated by U.S. Granules is a scrap dryer/delacquering kiln/decoating kiln as the term is defined in Subpart RRR, and that the kiln operated by U.S. Granules was subject to this rule. The key to EPA determination was the definition of a scrap dryer/delacquering kiln/decoating unit as a unit used to remove various organic contaminants such as oil, paint, lacquer, ink, plastic, and/or rubber from aluminum scrap (including aluminum beverage containers) prior to melting. The determination further stated that the melting does not have to occur at the site of the delamination kiln, and the fact that some customers may melt the aluminum product at their location was sufficient to make Subpart RRR applicable.

On October 25, 2004, U.S. Granules filed a request for reconsideration with the U.S. EPA. In this request, and in a subsequent conference call on November 10, 2004, U.S. Granules stated none of the aluminum foil recovered by the delamination kiln is melted by either U.S. Granules or its

customers. In a letter dated November 23, 2004, Michael S. Alushin, Director, U.S. EPA Compliance Assessment and Media Programs Division, Office of Compliance, stated that if in fact none of the aluminum recovered from the delamination kiln is melted by either U.S. Granules or its customers, then the delamination kiln is not subject to the secondary aluminum NESHAP. However, Mr. Alushin also stated "If the U.S. Granules customers operations should change in the future, such that aluminum recovered by the delamination kilns is subsequently melted, the delamination kilns would be subject to the Secondary Aluminum Production NESHAP."

IDEM is therefore making the following changes to the FESOP.

1. Section A.1 is changed to indicate U.S. Granules not a secondary aluminum processing source and is not one of the twenty-eight named source categories in 326 IAC 2-2.

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

The Permittee owns and operates a **stationary aluminum foil recovery secondary aluminum processing** source utilizing clean, pre-consumer factory overruns of laminated aluminum foil.

Authorized Individual:	President
Source Address:	1433 Western Avenue, Plymouth, IN 46563
Mailing Address:	P.O. Box 130, Plymouth, Indiana 46563
General Source Phone Number:	574-936-2146
SIC Code:	3399 3344
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Rules Not 1 of 28 Source Categories

2. Condition D.1.10 has been added to the permit to require U.S. Granules to apply for a FESOP revision to implement the requirements of 40 CFR 63, Subpart RRR, National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production in the event that its business practices change and either U.S. Granules or its customers begin to melt the recovered aluminum.

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

D.1.10 NESHAP Subpart RRR Requirements [40 CFR Part 63, Subpart RRR] [326 IAC 20-70]

In the event that either U.S. Granules or its customers begin to melt the aluminum recovered from the IDEX System, U.S. Granules shall apply to the Office of Air Quality for FESOP revision to implement the requirements of 40 CFR Part 63, Subpart RRR.

Comment 2:

In Section A.1, the USG plant's Standard Industrial Classification ("SIC") is listed as 3441. This is true only for the IDEX system. The SIC for the remainder of USG's plant should be 3499, for machining operations.

Response 2:

The Standard Industrial Classification (SIC code) used to identify a source is based on the category that best describes the overall manufacturing process at the source. For U.S. Granules, IDEM OAQ has determined that Code 3399, Primary Metal Products, Not Elsewhere Classified, is the most appropriate designation. In its description of what SIC Code 3399 represents, the Occupational Safety & Health Administration (OSHA) lists several examples of manufacturing activities that fall under this classification. Aluminum atomized powder and metal flakes are two of the examples listed. Accordingly, the SIC Code in Section A.1 of the permit has been revised, as previously shown in Response 1.

Comment 3:

The applicant stated that due to errors in the permit application, there are numerous errors in the description of the manufacturing process, which are reflected in the equipment lists in Sections A.2, D.1 and D.2 of the permit. The specifics are as follows:

Monoshear - The monoshear produces no particulate while functioning. It is, literally a shear; as with a stamping die, the downward force of the monoshear's "tooth" into raw material pushes the material into a correspondingly-shaped opening. The raw material (which, in a stamping process, would be the "blank") falls downward through the female opening. The monoshear is encased in a cabinet, with no positive ventilation between the cabinet interior and the atmosphere of the plant. As the monoshear neither produces nor emits a regulated air pollutant, it must be removed from the permit.

Afterburner - The device referred to as an "afterburner" in the permit is, in reality, the secondary chamber of the IDEX kiln. The secondary chamber is actually the heat source for this thermodynamic process; the sole heat provided externally to the primary IDEX chamber is provided by the gaseous effluent of this secondary chamber. While the primary IDEX chamber allows only limited combustion to occur at temperatures below 1150° F, the secondary chamber allows combustion up to 3000° F, providing the heat which maintains the ongoing delamination process in the primary IDEX chamber. The secondary chamber can (when sufficient oxygen is present) destroy some of the volatile organic compounds ("VOCs") present in gases as they move through the secondary chamber. VOC destruction is merely a fortunate by-product of this chamber's function within the system. If the secondary chamber destroyed no VOCs, it would still be required. The secondary chamber (a.k.a. "afterburner") must be removed from the permit, as it is a portion of the IDEX, not a pollution control device.

A/C Line Hammermill - Since 1970, there has been an "A" line and a "C" line. At this time, we have no record of why the air permits have always referred to the "A/C" line. Equipment on these lines should be referred to separately. The name "hammermill" accurately describes the function of this equipment. This process "hammers" pieces of aluminum foil through a milled steel plate, causing the aluminum foil to form into a spherical ("granular") shape. This is a machining process on aluminum. No particulate is produced by, nor is particulate emitted from either the A Line Hammermill nor the C Line Hammermill. They must be removed from the permit.

D-Line Hammermill - Like the A and C line hammermills, this unit neither produces nor emits particulate. This is a machining process on aluminum. It must be removed from the permit.

Aluminum Blending Mixer and Bagger - The "blending mixer" mixes aluminum granules; it does not produce nor does it emit particulate. It must be removed from the permit.

The "bagger" describes a separate packaging process, not a piece of equipment. The bagging process displaces some fine particulate from within a sack or bag as granules are poured into the sack or bag (thus displacing the air within the bag, and blowing out such dust as may be in said sack or bag). The end of a six-inch diameter duct is in proximity to the sack's or bag's top; the other end of this duct is connected to the intake side of a baghouse. A baghouse is available for this use because it is a "spare" baghouse, previously connected to a production process several years ago. USG does not have to ventilate this process for any reason other than convenience. The particulate could be allowed to reside in this area and be periodically removed by sweeping, or an unregulated "general exhaust" fan would work as well to remove particulate away from the process. The "bagger" must be removed from the permit.

Sphery Modifier - The sphery modifier performs a machining process on aluminum in conformance with its name: it modifies the spherical shape of the aluminum granule. This is a machining process on aluminum which produces no particulate emissions. It must be removed from the permit.

Batching System Loading Hopper - There is no "batching system loading hopper." It must be removed from the permit.

Response 3:

Personnel from the IDEM Northern Regional Office conducted an inspection at U.S. Granules on January 18, 2007. This inspection followed the submittal of comments on the draft FESOP Renewal by U.S. Granules. The results were as follows:

1. The IDEM inspector agreed with U.S. Granules that both the initial FESOP, F 099-5463-00015, issued on December 11, 1996, and the proposed renewal, did not accurately represent the manufacturing processes at the source.
2. The inspector concurred with U.S. Granules that the Batching System Loading Hopper has not existed for many years, and that the Sphery Modifier is a machining process and does not emit a regulated pollutant. The enforcement action regarding these two (2) processes has been dropped.
3. The IDEM inspector worked with U.S. Granules to develop the following revised equipment list, which is incorporated into Sections A.2, D.1 and D.2 of the FESOP Renewal.

The revised equipment list is as follows:

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

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

- (a) One (1) ~~monoshert~~ **IDEX System, consisting of a rotary pyrolysis kiln, and a secondary combustion chamber that conditions air for the pyrolysis kiln**, ~~identified as Process A,~~ constructed in 1995, equipped with a ~~natural gas-fired afterburner and a baghouse,~~ **identified as the IDEX System Baghouse**, with a flow rate of 27,330 actual cubic feet per minute, capacity: 4.0 tons of laminated aluminum foil per hour.
- (b) **One (1) A Line Pneumatic Conveyor System, Segment No. 1 approved for construction in 2007, and Segment No. 2 constructed in 1970, controlled by a two (2) baghouses, identified as the A Line Conveyor System Segment No. 1 Baghouse, with a flow rate of 8,000 actual cubic feet per minute, and the A Line Conveyor System Segment No. 2**

Baghouse, with a flow rate of 4,300 actual cubic feet per minute, total capacity for both segments: 1.70 tons of aluminum foil per hour.

- ~~(b)~~ ~~A/C Line hammermills, identified as Process B, constructed in 1970, controlled by a baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.~~
- (c) One (1) C Line Separator, constructed in 1970, controlled by a baghouse, identified as the C Line Separator Baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.**
- ~~(d)~~ ~~(e) Two (2) D Line Separators, hammermill, identified as Process C, constructed in 1987, controlled by a baghouse, identified as the D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 0.085 tons of aluminum foil per hour.~~
- ~~(e)~~ ~~(d) One (1) Aluminum Blending, Loading and Packaging Process No. 1, blending mixer and bagger, identified as Process E, constructed in 1966, controlled by a baghouse, identified as the Aluminum Blender No. 1 Baghouse, which is integral to the process, with a flow rate of 4,000 actual cubic feet per minute, capacity: 3.0 tons of aluminum granules per hour.~~
- ~~(f)~~ ~~(e) One (1) Aluminum Blending and Loading Process No. 2, blending and briquetting mixer, identified as Process F, constructed in 1991, controlled by a baghouse, identified as the Aluminum Blender No. 2 Baghouse, two (2) baghouses which is are integral to the process, with a flow rate rates of 4,600 actual cubic feet per minute, and 1,880 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.~~
- (g) One (1) Briquetting and Packaging Process, constructed in 1991, controlled by a baghouse, identified as the Briquetting and Packaging Baghouse, that is integral to the process, with a maximum flow rate of 1,800 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.**
- (h) One (1) Emergency D Line Separator (emergency backup, only to be used when the D Line Separators are down), constructed in 2006, controlled by a baghouse, identified as the Emergency D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.**
- ~~(f) One (1) spherity modifier, identified as Process I, constructed in 2002, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 1.0 tons of aluminum stock per hour.~~
- ~~(g) One (1) batching system loading hopper, identified as Process J, constructed in 1979, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 10.0 tons of aluminum granules per hour.~~

Comment 4:

On March 30, and April 25, 2007, U.S. Granules requested that two previously unpermitted pieces of equipment be added to the FESOP Renewal.

1. U.S. Granules intends to divide the A Line Pneumatic Conveyor System into two (2) segments. The existing A Line Pneumatic Conveyor System and its associated baghouse, will now be known as A Line Pneumatic Conveyor System Segment No. 2. A new segment to be known as the A Line Pneumatic Conveyor System Segment No. 1 will be constructed with a new baghouse. The process will continue to operate at the current 1.7 tons per hour

capacity of the A Line Pneumatic Conveyor System.

2. U.S. Granules has constructed a backup D Line Separator, that is intended to be used for emergency purposes only. This process has a capacity identical to the primary D Line Separators of 0.85 tons per hour. This facility has been constructed but not operated.

Response 4:

IDEM OAQ has reviewed the submitted information, and concluded that in both cases the additional equipment will route existing processes through equivalent control devices, and will not increase the throughput of the source or the potential to emit of PM/PM₁₀.

The A Line Pneumatic Conveyor System is being separated into two separate processes, but with no increase in operating capacity, and with both the existing and new baghouses operating at 99.9% collection efficiency.

The backup D Line Separator will operate at the same capacity and with a baghouse operating at the same 99.9% collection efficiency as the primary D Line Separators. The applicant has stated that this facility will only operate if the primary D Line Separators are out of service, and this will be written into a permit condition.

The equipment lists in Section A.2 and D.2 of the permit have been revised to include these new facilities as follows:

- (b) One (1) A Line Pneumatic Conveyor System, Segment No. 1 approved for construction in 2007, and Segment No. 2 constructed in 1970, controlled by a two (2) baghouses, identified as the A Line Conveyor System Segment No. 1 Baghouse, with a flow rate of 8,000 actual cubic feet per minute, and the A Line Conveyor System Segment No. 2 Baghouse, with a flow rate of 4,300 actual cubic feet per minute, total capacity for both segments: 1.70 tons of aluminum foil per hour.**
- ~~(b) A/C Line hammermills, identified as Process B, constructed in 1970, controlled by a baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.~~
- (h) One (1) Emergency D Line Separator (emergency backup, only to be used when the D Line Separators are down), constructed in 2006, controlled by a baghouse, identified as the Emergency D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.**

Condition D.2.2 of the permit has been modified to include the requirements of 326 IAC 6-3-2 for the new baghouses. The revised condition is as follows:

D.2.2 Particulate **Emission Limitations for Manufacturing Processes** [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 **(e)** (Particulate Emission Limitations for Manufacturing Processes), the particulate from the:

- (a) A Line Pneumatic Conveyor System, Segment No. 1, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.70 tons per hour.**
- (h) PM emissions from the Emergency D Line Separator shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour. This process shall only operate when the D Line Separators are not in service.**

Comment 5:

The applicant submitted a comment stating that the degreaser listed as an insignificant activity in Section A.3 and Section D.3 of the permit is no longer at the source.

Response 5:

Since there are no longer any degreasing operations at the source, and no other specifically regulated insignificant activities, Sections A.3 and D.3 have been deleted from the permit, and Section A.4, FESOP Applicability, has been renumbered as A.3. The changes are as follows:

~~A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(e)(3)(I)]~~

~~This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):~~

- ~~(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.~~
- ~~(b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.~~
- ~~(c) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.~~
- ~~(d) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.~~
- ~~(e) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]~~
- ~~(f) Cleaners and solvents characterized as follows: a) having a vapor pressure equal to or less than 2 kilopascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38°C (100°F) or; b) having a vapor pressure equal to or less than 0.7 kilopascals; 5 millimeters of mercury; or 0.1 pounds per square inch measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.~~
- ~~(g) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.~~
- ~~(h) A laboratory as defined in 326 IAC 2-7-1(21)(D).~~
- ~~(i) One (1) gasoline-fired emergency generator, identified as EG-1, with a rated output of 35 brake horsepower (BHP), exhausting directly to the atmosphere.~~
- ~~(j) One (1) natural gas-fired emergency generator, identified as EG-2, with a rated output of 7.5 KW, exhausting directly to the atmosphere.~~

~~A.3 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 D.3 FACILITY OPERATION CONDITIONS

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

Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(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 2-8-4(1)]

D.3.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2] [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75)

~~or greater.~~

~~(B) A water cover when solvent is used is insoluble in, and heavier than, water.~~

~~(C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.~~

~~(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner-Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:~~

~~(1) Close the cover whenever articles are not being handled in the degreaser.~~

~~(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.~~

~~(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.~~

Comment 6:

The applicant submitted the following comments on the emission calculations:

The "emission factors" stated in Section D.1 of the permit were developed prior to the installation and startup of the IDEX system, and do not reflect the actual emissions measured in stack tests. These factors are baseless, and must be removed from the permit.

1. Condition D.1.1(b) states an emission factor of 1.37 pounds VOC per ton of laminated foil processed, and requires that the misnamed "natural gas-fired afterburner" (the IDEX secondary combustion chamber) be in operation at all times. In actuality, the secondary combustion chamber does not use natural gas as fuel; combustibles which have delaminated from aluminum foil in the primary chamber are the fuel. Stack tests conducted in January of 2004 measured emissions of VOC at 0.09 pounds per ton of material fed into the IDEX. Based on this test, the Potential to Emit (PTE) VOC from the IDEX (at an operating rate of 4.0 tons per hour) is just over 1.5 Tons per Year. There is no need to set limits on VOC emissions from a production unit with a PTE of less than two tons per year. This condition must be removed from the permit.
2. Condition D.1.1(c) states an emission factor of 5.45 pounds of CO per ton of laminated foil processed. As with Condition D.1.1(b), the IDEX secondary combustion chamber is wrongly identified as a "control." Stack tests conducted in 2004 measured emissions of CO at 0.18 pounds per ton of material fed into the IDEX. Based on this test, the Potential to Emit (PTE) CO from the IDEX (at an operating rate of 4.0 tons per hour) is just over 3.1 Tons per Year. (We will address this further in corrections to the Technical Support Document.) There is no need to set limits on CO emissions from a production unit with a PTE of less than four tons per year. This condition must be removed from the permit.
3. Conditions D.1.1(d) and (e) state an emission factor of 1.55 pounds of PM and PM₁₀ per ton of laminated foil processed. Stack tests conducted in 2004 measured emissions of total PM (all assumed to be PM₁₀) at 0.96 pounds per ton of material fed into the IDEX. Based on this test, the Potential to Emit (PTE) PM/ PM₁₀ from the IDEX (at an operating rate of 4.0 tons per hour) is just over 16.7 Tons per Year. (We will address this further in corrections to the Technical Support Document.)

The applicant submitted the following comments regarding stack testing and limits as follows:

1. Regarding the specifically-apportioned VOC limit for IDEX System vs. trivial/insignificant facilities: We note the following regarding the IDEX System:
 - (a) The IDEX System does not use, nor does it produce, organic volatiles. Any VOC contained in adhesives and inks (used in the manufacture of laminated aluminum foil, the raw material for the IDEX system) has long since volatilized before the foil's arrival at the source.
 - (b) The combustion of paper and plastic in the IDEX System results in carbon ash, which is not volatile. There is not now, nor has there ever been, a VOC control. The misnamed "afterburner" is, in fact, the IDEX System's secondary combustion chamber, as verified during the IDEM Air Compliance Section inspection.
2. Based on the 2004 stack test, the potential to emit of VOC from the IDEX System is less than one ton per year. There is no need to invoke 326 IAC 8-1-6 (BACT), nor is there a need to impose some specific limit on IDEX VOC emissions. The VOC emission limit (less than 100 tons per year) inherent to the FESOP is sufficient regulation of VOC emissions from the source.
3. Carbon monoxide limit, IDEX System: We do not understand why the IDEX System's CO emissions are limited to 95 tons per year. Based on the 2004 stack test, the potential to emit CO is less than 1.5 tons per year.
4. Stack testing requirement for VOC and carbon monoxide: As stated above, the IDEX System's potential to emit VOC and CO are less than 1.0 and 1.5 tons per year, respectively. As the system emits very little of either pollutant, these tests are unnecessarily burdensome.
5. Stack testing requirement for particulate: PM/PM₁₀ (all considered PM₁₀, tested June, 2004 using EPA Methods 5 and 202) emits from the IDEX System at a rate of 1.4 pounds per hour when the system is processing 1.45 tons of laminated aluminum foil per hour. Potential to emit PM/PM₁₀ is approximately 6 tons per year; this test is unwarranted for the IDEX System.
6. U.S. Granules is aware that the source's FESOP inherently restricts emissions of particulate (and PM₁₀) to less than 100 tons per year, but no regulation states that a FESOP source must accept specifically apportioned limits for each emitting facility in order to demonstrate compliance with this 100-ton limit. Based on the amount of baghouse particulate the source sent to landfills in 2006, the efficiencies of the baghouses (stated in the TSD of its existing permit) and the 2004 stack test, the source-wide potential to emit particulate (after control) is 7.4 tons per year. The source is easily capable of limiting particulate emissions to less than 100 TPY without baghouse-by-baghouse restrictions.

Response 6:

Based on the January 18, 2007 inspection, IDEM OAQ agrees with U.S. Granules that the emission factors used to develop the draft permit are not appropriate for the source.

Stack tests for VOC, CO and PM/PM₁₀ from the IDEX System were conducted at the source on January 21, 2004. The protocol for these tests was approved by IDEM and the tests were observed by an IDEM inspector. The tests were conducted at a capacity of 1.86 tons of laminated aluminum foil per hour, which was the maximum capacity achievable when burning the laminated aluminum foil which was available at that time. The test data for VOC and CO were approved by IDEM. PM/PM₁₀ required a retest, which was conducted on June 8, 2004. During the retest, the IDEX System operated at a capacity of 1.45 tons of laminated aluminum foil per hour. Maximum capacity of the

IDEX System is 4.0 tons per hour.
The stack test results are shown in the following table.

Summary of IDEX System Stack Test Results		
Pollutant	Emission Rate (lbs/hour)	Emission Rate (lbs/ton)
VOC	0.089	0.048
CO	0.288	0.155
PM/PM ₁₀	1.380	0.952

Based on these stack test results, revised potential to emit calculations for the IDEX System are shown in a spreadsheet on page 1 of 3 of Appendix A to this document. For those pollutants where stack testing was not done, SO₂ and NO_x, emission factors were taken from AP-42 Table 2.1-12, Uncontrolled Emissions Factors for Refuse Combustors other than Municipal Waste.

Emissions from all other steps in the aluminum recycling process consist of PM/PM₁₀ emissions from conveying, blending, loading and packaging. On March 30, and April 25, 2007, U.S. Granules submitted additional emissions data for these processes based on total particulate matter collected in each baghouse during calendar year 2006. Revised potential to emit calculations from these processes are shown in a spreadsheet on page 2 of 3 of Appendix A to this document. For each baghouse the applicant has submitted the actual hours of operation in 2006. These emissions were then ratioed up to represent 8,760 hours of potential operation.

A summary of the PM/PM₁₀ potential to emit, controlled PM/PM₁₀ emissions, 326 IAC 6-3-2 process rule limits and revised PM/PM₁₀ FESOP limits is shown on page 3 of 3 of Appendix A to this document.

Although the Technical Support Document (TSD) for this permit will not be revised as it is a historical document and was correct at the time of public notice, the following sections from the TSD are revised here to show how the emissions calculations shown in Appendix A of this document affect the unrestricted potential to emit and the limited potential to emit following issuance of this permit.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source based on the revised equipment configuration and the calculations from the spreadsheets in Appendix A of this document.

Pollutant	Potential to Emit (tons/yr)
PM	18,439
PM ₁₀	18,439
SO ₂	43.8
VOC	0.837
CO	2.72
NO _x	52.6

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 After Issuance (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
IDEX System	Less Than 45.6	Less Than 45.6	43.8	0.837	2.72	52.6	negligible
A Line Pneumatic Conveyor System	Less Than 25.6	Less Than 25.6	-	-	-	-	-
C Line Separator	Less Than 8.80	Less Than 8.80	-	-	-	-	-
D Line Separators	Less Than 5.50	Less Than 5.50	-	-	-	-	-
Blending, Loading and Packaging Process No. 1 (integral)	Less Than 3.50	Less Than 3.50	-	-	-	-	-
Blending, Loading and Packaging Process No. 2 (integral)	Less Than 3.50	Less Than 3.50	-	-	-	-	-
Briquetting and Packaging (integral)	Less Than 3.50	Less Than 3.50	-	-	-	-	-
Emergency D Line Separator							
Insignificant Activities and Fugitive Emissions	3.00	3.00	negligible	1.00	4.00	5.0	negligible
Total PTE After Issuance	Less Than 250	Less Than 99.0	43.8	1.84	6.72	57.4	Single Less Than 10 Total less than 25

Notes: 1. The PM₁₀ limits for each individual process will be enforced on an hourly basis.

2. The FESOP limits also make the source minor under PSD rules.

Response 6, Changes to Section D.1 Conditions:

IDEM recognizes that the emissions calculations and equipment descriptions utilized in the draft FESOP Renewal are unrepresentative of the source, and that the FESOP limits and testing requirements in the draft FESOP Renewal are in some cases invalid. Based on the results of the 2004 stack tests, IDEM has determined that no further stack testing for CO or VOC emissions from the IDEX System will be required.

Because uncontrolled PM/PM₁₀ emissions from the IDEX System are large, 16,679 tons per year, and FESOP compliance is achieved using a high efficiency (99.9%) control device, stack testing for PM/PM₁₀ will be required every five (5) years.

Based on the revised emissions calculations, IDEM has determined that uncontrolled emissions of SO₂, VOC, CO and NO_x are each less than 99 tons per year, and that FESOP limits are not required for these pollutants. PM/PM₁₀ emissions will continue to be limited to less than 99 tons per year. IDEM has also determined that unless this limit is apportioned among the individual emission units it is not practically enforceable. Therefore, individual PM/PM₁₀ limits have been determined for each emission unit. For the two (2) largest emission units for PM/PM₁₀, the IDEX System and the A Line Pneumatic Conveyor Systems, it should be noted that the FESOP limits, when enforced on an hourly basis, are identical to the 326 IAC 6-3-2 process rule limits, so they do not constitute an additional requirement.

The following changes have been made to Section D.1 of the permit to incorporate the revised equipment descriptions, and the changes to the FESOP limits based on the revised potential to emit calculations from the IDEX System. The changes are summarized as follows:

1. Based on the revised emissions data, FESOP limits are no longer necessary for the VOC and CO, because the uncontrolled potential to emit for these pollutants is less than 99.0 tons per year.
2. All references to the natural gas-fired afterburner and its operating conditions and compliance monitoring requirements have been removed from the permit.
3. Upon further review, IDEM OAQ has determined that a limit on the total throughput of laminated aluminum foil to the IDEX System is not necessary. Therefore, the throughput limit in Condition D.1.1(a) has been removed, along with the associated recordkeeping and reporting conditions, and the quarterly reporting form. The PM and PM₁₀ limits for the IDEX System are now expressed in pounds per hour rather than pounds per ton. These limits have also been revised to reflect the relative contribution of the IDEX System to the overall PM and PM₁₀ limits based on the revised emissions calculations.
4. Based on the results of stack testing for VOC and CO, routine testing for these pollutants is no longer required. Stack testing of PM/PM₁₀ emissions from the IDEX System will continue to be required every five (5) years.
5. Because the throughput limit in Condition D.2.1 has been eliminated, the recordkeeping and reporting requirements for this limit have been removed from the permit, along with the quarterly reporting for.

The revised permit conditions are as follows:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: **IDEX System Rotary Pyrolysis Kiln**

- (a) One (1) ~~monoshear to~~ **IDEX System, consisting of a rotary pyrolysis kiln, and a secondary combustion chamber that conditions air for the pyrolysis kiln, identified as Process A,** constructed in 1995, equipped with a natural gas fired afterburner and a baghouse, **identified as the IDEX System Baghouse,** with a flow rate of 27,330 actual cubic feet per minute, capacity: 4.0 tons of laminated aluminum foil 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 2-8-4(1)]

D.1.1 PSD and Part 70 Minor Limits [326 IAC 2-8-4] [~~326 IAC 8-1-6~~] [326 IAC 2-2]

- (a) ~~Total throughput of laminated aluminum foil to the IDEX rotary pyrolysis kiln (Process A), shall not exceed 35,040 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (b) ~~Volatile organic compound (VOC) emissions from the IDEX rotary pyrolysis kiln (Process A), shall not exceed 1.37 pounds per ton of laminated aluminum foil processed. The natural gas fired afterburner shall be in operation at all times with a minimum control efficiency of 92.4 percent. Compliance with this limit will ensure that VOC emissions are less than 24.0 tons per year, and renders the requirements of 326 IAC 8-1-6 (Best Available Control Technology) not applicable.~~
- As a result of the VOC limit for the IDEX rotary pyrolysis kiln (Process A), VOC emissions for the entire source, including insignificant activities, will be less than 100 tons per year, rendering the requirements of 326 IAC 2-7 not applicable.
- (c) ~~Carbon monoxide (CO) emissions from the IDEX rotary pyrolysis kiln (Process A), shall not exceed 5.45 pounds per ton of laminated aluminum foil processed. The natural gas fired afterburner shall be in operation at all times with a minimum control efficiency of 81.2 percent. Compliance with this limit will ensure that CO emissions from the IDEX rotary pyrolysis kiln (Process A) are less than 95.0 tons per year, and that CO emissions from the entire source, including insignificant activities, are less than 100 tons per year. This renders the requirements of 326 IAC 2-7 not applicable.~~
- (a) (d) **PM₁₀ emissions from the IDEX System rotary pyrolysis kiln (Process A) shall not exceed 10.4 1.55 pounds per hour ton of laminated aluminum foil processed, which is equivalent to 27.1 tons per year.** Compliance with this limit will ensure that PM₁₀ emissions from all facilities at the source, including insignificant activities and fugitives, are less than 100 tons per year, rendering the requirements of 326 IAC 2-7 not applicable.
- (b) (e) **PM emissions from the IDEX System rotary pyrolysis kiln (Process A) shall not exceed 10.4 1.55 pounds per hour ton of laminated aluminum foil processed, which is equivalent to 27.1 tons per year.** Compliance with this limit will ensure that PM emissions from all facilities at the source, including insignificant activities and fugitives, are less than **250 400** tons per year, rendering the requirements of 326 IAC 2-2 not applicable.

Compliance with the above limits, and the limits in Condition D.2.1, **including potential PM and PM₁₀ emissions from insignificant activities**, will render 326 IAC 2-2 and provisions of 326 IAC 2-7 not applicable to this source.

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

Pursuant to 326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the IDEX **System rotary pyrolysis kiln (Process A)** shall not exceed 10.4 pounds per hour when operating at a process weight rate of 4.0 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

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

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

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

- (a) ~~To demonstrate compliance with 326 IAC 2-8-4, and render the requirements of 326 IAC 8-1-6 and 326 IAC 2-2 not applicable, a compliance stack test of VOC from the IDEX rotary pyrolysis kiln shall be performed within five (5) years of the last stack test of January 21, 2004, which is January 21, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration.~~
- (b) ~~To demonstrate compliance with 326 IAC 2-8-4, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of CO from the IDEX rotary pyrolysis kiln, shall be performed within five (5) years from the last stack test of January 21, 2004, which is January 21, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration.~~
- (c) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the IDEX **System rotary pyrolysis kiln**, shall be performed within five (5) years from the last stack test of June 8, 2004, which is June 8, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.

D.1.5 Volatile Organic Compounds (VOC) and Carbon Monoxide (CO)

~~In order to comply with Condition D.1.1, the natural gas-fired afterburner on the IDEX rotary pyrolysis kiln (Process A) shall be in operation and control VOC and CO emissions at all times that the IDEX rotary pyrolysis kiln is in operation.~~

D.1.5 D.1.6 Particulate Control

- (a) In order to comply with Conditions D.1.1 and D.1.2, the baghouse dust collector for particulate control on the IDEX **System rotary pyrolysis kiln (Process A)** shall be in operation and control emissions at all times that the IDEX **System rotary pyrolysis kiln** is in operation.

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

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

~~D.1.7~~ Parametric Monitoring – Natural Gas Fired Afterburner

- ~~(a) The natural gas-fired afterburner at the IDEX rotary pyrolysis kiln shall operate at all times that the process is in operation. When operating, the afterburner shall maintain a minimum operating temperature of 1400°F, or a temperature determined in the most recent stack test to maintain a minimum destruction of at least 92.3 percent of the VOC captured.~~
- ~~(b) A continuous monitoring system shall be calibrated, maintained, and operated on the natural gas-fired afterburner for measuring operating temperature. The output of this system shall be recorded as an hourly average. The Permittee shall take appropriate response steps in accordance with Section C – Response to Excursions or Exceedances whenever the hourly average temperature of the thermal oxidizer is below 1400°F, or the temperature determined in the most recent stack test to maintain a minimum destruction of at least 92.7 percent of the VOC captured. An hourly average temperature that is below this level is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances shall be considered a deviation from this permit.~~

~~D.1.6~~ ~~D.1.8~~ Visible Emissions Notations

- (a) Visible emission notations of the IDEX **System** rotary pyrolysis kiln baghouse stack exhaust shall be performed once per day during normal daylight operations. ~~when exhausting to the atmosphere.~~ A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

~~D.1.7~~ ~~D.1.9~~ Baghouse Parametric Monitoring [326 IAC 2-8-5(1)] [326 IAC 2-8-4(1)]

- (a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the IDEX **System**, at least once per day when the IDEX **System** rotary pyrolysis kiln is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in

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

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

D.1.8 ~~D.1.10~~ Broken or Failed Bag Detection

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

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

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

D.1.9 ~~D.1.11~~ Record Keeping Requirements

- ~~(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain monthly records of total throughput of laminated aluminum foil to the IDEX rotary pyrolysis kiln (Process A).~~
- ~~(b) To document compliance with Condition D.1.7, the Permittee shall maintain continuous records of exhaust temperature of the IDEX rotary pyrolysis kiln when the kiln is operating.~~
- (a) (e)** To document compliance with Condition **D.1.6** ~~D.1.8~~, the Permittee shall maintain **a daily record** records of visible emission notations of the **IDEX System** baghouse stack exhaust ~~once per day~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
- (b) (e)** To document compliance with Condition **D.1.7** ~~D.1.9~~, the Permittee shall maintain **a daily record** records ~~once per day~~ of the pressure drop **across** ~~on~~ the baghouse **controlling the IDEX System** during normal operation when venting to the atmosphere. **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) (e)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.1.12 Reporting Requirements~~

~~A quarterly summary of the information to document compliance with Condition D.1.1(a) shall be~~

~~submitted to the address listed in Section C – General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).~~

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

D.1.10 NESHAP Subpart RRR Requirements [40 CFR Part 63, Subpart RRR] [326 IAC 20-70]

In the event that either U.S. Granules or its customers begin to melt the aluminum recovered from the IDEX System, U.S. Granules shall apply to the Office of Air Quality for FESOP revision to implement the requirements of 40 CFR Part 63, Subpart RRR.

Response 6, Quarterly Reporting Form for Condition D.1.1(a):

The quarterly reporting form used to demonstrate compliance with the throughput limits formerly in Condition D.1.1(a) has been eliminated.

FESOP Quarterly Report

Source Name: ~~U.S. Granules Corporation~~
Source Address: ~~1433 Western Avenue, Plymouth, IN 46563~~
Mailing Address: ~~P.O. Box 130, Plymouth, Indiana 46563~~
FESOP No.: ~~F 099-13894-00015~~
Facility: ~~IDEX rotary pyrolysis kiln (Process A)~~
Parameter: ~~Laminated Aluminum Foil~~
Limit: ~~35,040 tons per twelve (12) consecutive month period~~

Response 6, Section D.2 Conditions:

The following changes have been made to Section D.2 of the permit to incorporate the revised equipment descriptions, and the changes to the FESOP limits based on the revised potential to emit calculations from the conveying, separating, packaging and loading operations. The changes are summarized as follows:

1. Based on the revised emissions data, the PM₁₀ FESOP limits have been revised to more accurately represent their contribution to the total PM₁₀ potential to emit.
2. Based on the revised emissions data, stack testing requirements for the conveying, separating, packaging and loading operations have been eliminated.
3. The previously unpermitted emission units, Segment No. 1 of the A Line Pneumatic Conveyor System and the Emergency D Line Separator have been added to the equipment list and appropriate permit conditions.
4. The PM limits based on 326 IAC 6-3-2 have been revised to reflect small changes in the capacity of the conveying systems.

The revised permit conditions are as follows:

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: ~~Hammermills, Conveying, Blending and Bagging~~

- (b) **One (1) A Line Pneumatic Conveyor System, Segment No. 1 approved for construction in 2007, and Segment No. 2 constructed in 1970, controlled by a two (2) baghouses, identified as the A Line Conveyor System Segment No. 1 Baghouse, with a flow rate of 8,000 actual cubic feet per minute, and the A Line Conveyor System Segment No. 2 Baghouse, with a flow rate of 4,300 actual cubic feet per minute, total capacity for both segments: 1.70 tons of aluminum foil per hour.**
- (b) ~~A/C Line hammermills, identified as Process B, constructed in 1970, controlled by a baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.~~
- (c) **One (1) C Line Separator, constructed in 1970, controlled by a baghouse, identified as the C Line Separator Baghouse, with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.**
- (d) ~~(e) Two (2) D Line Separators, hammermill, identified as Process G, constructed in 1987, controlled by a baghouse, identified as the D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 0.085 tons of aluminum foil per hour.~~
- (e) ~~(d) One (1) Aluminum Blending, Loading and Packaging Process No. 1, blending mixer and bagger, identified as Process E, constructed in 1966, controlled by a baghouse, identified as the Aluminum Blender No. 1 Baghouse, which is integral to the process, with a flow rate of 4,000 actual cubic feet per minute, capacity: 3.0 tons of aluminum granules per hour.~~
- (f) ~~(e) One (1) Aluminum Blending and Loading Process No. 2, blending and briquetting mixer, identified as Process F, constructed in 1991, controlled by a baghouse, identified as the Aluminum Blender No. 2 Baghouse, two (2) baghouses which is are integral to the process, with a flow rate rates of 4,600 actual cubic feet per minute, and 1,880 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.~~
- (g) **One (1) Briquetting and Packaging Process, constructed in 1991, controlled by a baghouse, identified as the Briquetting and Packaging Baghouse, that is integral to the process, with a maximum flow rate of 1,800 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.**
- (h) **One (1) Emergency D Line Separator (emergency backup, only to be used when the D Line Separators are down), constructed in 2006, controlled by a baghouse, identified as the Emergency D Line Separator Baghouse, with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.85 tons of aluminum foil per hour.**
- (f) ~~One (1) sphony modifier, identified as Process I, constructed in 2002, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 1.0 tons of aluminum stock per hour.~~
- (g) ~~One (1) batching system loading hopper, identified as Process J, constructed in 1979, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 10.0 tons of aluminum granules 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 2-8-4(1)]

D.2.1 PSD and Part 70 Minor Particulate Matter (PM₁₀ and PM) Limitations [326 IAC 2-8-4] [326 IAC 2-2]

- (a) The PM₁₀ emissions from **the Conveying, Blending and Bagging** Processes ~~B, C, E, F, I and J~~ shall be limited as follows to satisfy the requirements of 326 IAC 2-8-4.
- (1) **PM₁₀ emissions from the A Line Pneumatic Conveyor System, Segments 1 and 2, shall not exceed 5.85 pounds per hour.**
 - (2) **PM₁₀ emissions from the C Line Separator, shall not exceed 2.00 pounds per hour.**
 - (3) ~~(2)~~ PM₁₀ emissions from the **two (2) D Line Separators** ~~D-Line hammermill (Process C)~~ shall not exceed **1.26** ~~2.77~~ pounds per hour, ~~equivalent to 12.1 tons per year.~~
 - (4) ~~(3)~~ PM₁₀ emissions from the **Aluminum Blending, Loading and Packaging Process No. 1** ~~aluminum blending mixer and bagger (Process E)~~ shall not exceed **0.80** ~~2.06~~ pounds per hour, ~~equivalent to 9.0 tons per year.~~
 - (5) ~~PM₁₀ emissions from the sphery modifier (Process I) shall not exceed 0.68 pounds per hour, equivalent to 3.0 tons per year.~~
 - (5) ~~(4)~~ PM₁₀ emissions from the **Aluminum Blending and Loading Process No. 2** ~~aluminum blending and briquetting mixer (Process F)~~ shall not exceed **0.80** ~~2.74~~ pounds per hour, ~~equivalent to 12.0 tons per year.~~
 - (6) ~~PM₁₀ emissions from the batching system loading hopper (Process J) shall not exceed 3.40 pounds per hour, equivalent to 14.9 tons per year.~~
 - (6) **PM₁₀ emissions from the Briquetting and Packaging Process shall not exceed 0.80 pounds per hour.**
 - (7) **PM₁₀ emissions from the Emergency D Line Separator shall not exceed 2.00 pounds per hour. This process shall only operate when the D Line Separators are not in service.**
 - (8) ~~(7)~~ As a result of the above limits and the limit from Condition D.1.1(a) ~~(d)~~, PM₁₀ emissions from all facilities at the source, including insignificant activities and fugitives, will be less than 100 tons per year. Therefore, the requirements of 326 IAC 2-7 and 326 IAC 2-2 do not apply.
- (b) The PM emissions from **the Conveying, Blending and Bagging** Processes ~~B, C, E, F, I and J~~ shall be limited as follows:
- (1) **PM emissions from the A Line Pneumatic Conveyor System, Segments 1 and 2, shall not exceed 5.85 pounds per hour.**
 - (2) **PM emissions from the C Line Separator, shall not exceed 2.00 pounds per hour.**
 - (3) ~~(2)~~ PM emissions from the **two (2) D Line Separators** ~~D-Line hammermill (Process C)~~ shall not exceed **1.26** ~~2.77~~ pounds per hour, ~~equivalent to 12.1 tons per year.~~
 - (4) ~~(3)~~ PM emissions from the **Aluminum Blending, Loading and Packaging Process**

- ~~No. 1 aluminum blending mixer and bagger (Process E)~~ shall not exceed ~~0.80~~ **2.06** pounds per hour, equivalent to ~~9.0~~ tons per year.
- (5) ~~PM emissions from the sphery modifier (Process I) shall not exceed 0.68 pounds per hour, equivalent to 3.0 tons per year.~~
- (5) (4) PM emissions from the **Aluminum Blending and Loading Process No. 2** ~~aluminum blending and briquetting mixer (Process F)~~ shall not exceed **0.80** ~~2.74~~ pounds per hour, equivalent to ~~12.0~~ tons per year.
- (6) ~~PM emissions from the batching system loading hopper (Process J) shall not exceed 3.40 pounds per hour, equivalent to 14.9 tons per year.~~
- (6) **PM emissions from the Briquetting and Packaging Process shall not exceed 0.80 pounds per hour.**
- (7) **PM emissions from the Emergency D Line Separator shall not exceed 2.00 pounds per hour. This process shall only operate when the D Line Separators are not in service.**
- (8) (7) As a result of the above limits and the limit from Condition D.1.1(b) (d), PM emissions from all facilities at the source, including insignificant activities and fugitives, will be less than **250** ~~400~~ tons per year. Therefore, the requirements of 326 IAC 2-2 do not apply.

D.2.2 Particulate **Emission Limitations for Manufacturing Processes** [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes), the particulate from the:

- (a) **A Line Pneumatic Conveyor System, Segment No. 1, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.70 tons per hour.**
- (b) **A Line Pneumatic Conveyor System, Segment No. 2, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.70 tons per hour.**
- (c) **C Line Separator, shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.7 tons per hour.**
- (d) **Two (2) D Line Separators shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour.**
- (e) **Aluminum Blending, Loading and Packaging Process No. 1 shall not exceed 8.56 pounds per hour, when operating at a process weight rate of 3.0 tons per hour.**
- (e) **PM emissions from the Aluminum Blending and Loading Process No. 2 shall not exceed 12.1 pounds per hour, when operating at a process weight rate of 5.0 tons per hour.**
- (g) **PM emissions from the Briquetting and Packaging Process shall not exceed 12.1 pounds per hour, when operating at a process weight rate of 5.0 tons per hour.**
- (h) **PM emissions from the Emergency D Line Separator shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour. This process**

shall only operate when the D Line Separators are not in service.

- (a) ~~A/C Line hammermills (Process B), shall not exceed 5.85 pounds per hour, when operating at a process weight rate of 1.70 tons per hour.~~
- (b) ~~D Line hammermill (Process C), shall not exceed 3.68 pounds per hour, when operating at a process weight rate of 0.85 tons per hour.~~
- (c) ~~Aluminum blending mixer and bagger (Process E), shall not exceed 8.56 pounds per hour, when operating at a process weight rate of 3.0 tons per hour.~~
- (d) ~~Aluminum blending and briquetting mixer (Process F), shall not exceed 12.1 pounds per hour, when operating at a process weight rate of 5.0 tons per hour.~~
- (e) ~~Sphery modifier (Process I), shall not exceed 4.10 pounds per hour, when operating at a process weight rate of 1.0 tons per hour.~~
- (f) ~~Batching system loading hopper (Process J), shall not exceed 19.2 pounds per hour, when operating at a process weight rate of 10.0 tons per hour.~~

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

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

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

D.2.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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

Compliance Determination Requirements

D.2.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

- ~~(a) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the baghouse controlling the sphery modifier (Process I) and the batching system loading hopper (Process J), shall be performed within sixty (60) days following issuance of FESOP permit F 099-13894-00015, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.~~
- ~~(b) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the baghouses controlling the aluminum blending and bagger process (Process E) and the aluminum blending and briquetting mixer (Process F), shall be performed within one hundred and eighty (180) days following issuance of FESOP permit F 099-13894-00015, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.~~

D.2.4 ~~D.2.5~~ Particulate Control

- (a) In order to comply with Conditions D.2.1 and D.2.2, the baghouse dust collectors for particulate control shall be in operation and control emissions from the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger, (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J)~~ at all times that these facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

D.2.5 ~~D.2.6~~ Visible Emissions Notations

- (a) Visible emission notations of the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger, (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J)~~ baghouse stack exhausts shall be performed once per day during normal daylight operations. ~~when exhausting to the atmosphere.~~ A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.6 ~~D.2.7~~ Baghouse Parametric Monitoring [326 IAC 2-8-5(1)] [326 IAC 2-8-4(1)]

The Permittee shall record the pressure drop across the baghouses used in conjunction with the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger (Process~~

~~E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J),~~ at least once per day when these processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of operation **indicated below**, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The normal range of operation for each baghouse is as follows:

- (a) **A Line Pneumatic Conveyor System Segment No. 1, 1.0 to 8.0 inches of water**
- (b) **A Line Pneumatic Conveyor System Segment No. 2, 1.0 to 8.0 inches of water**
- (c) **C Line Separator, 1.0 to 6.0 inches of water**
- (d) **Two (2) D Line Separators, 1.0 to 8.0 inches of water**
- (e) **Aluminum Blending, Loading and Packaging Process No. 1, 1.0 to 8.0 inches of water**
- (f) **Aluminum Blending, Loading and Packaging Process No. 2, 1.0 to 8.0 inches of water**
- (g) **Briquetting and Packaging Process, 1.0 to 8.0 inches of water**
- (h) **Emergency D Line Separator, 1.0 to 6.0 inches of water**

- ~~(a) A/C Line hammermills (Process B), 1.0 to 8.0 inches of water~~
- ~~(b) D Line hammermill (Process C), 1.0 to 6.0 inches of water~~
- ~~(c) Aluminum blending mixer and bagger (Process E), 1.0 to 8.0 inches of water
This baghouse is integral to the process.~~
- ~~(d) Aluminum blending and briquetting mixer (Process F), 1.0 to 8.0 inches of water
This baghouse is integral to the process.~~
- ~~(e) Sphery modifier (Process I), 3.0 to 6.0 inches of water~~
- ~~(f) Batching system loading hopper (Process J), 3.0 to 6.0 inches of water~~

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

D.2.7 ~~D.2.8~~ Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. 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).

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

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

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

D.2.8 ~~D.2.9~~ Record Keeping Requirements

- (a) To document compliance with Condition **D.2.5** ~~D.2.6~~, the Permittee shall maintain a **daily record** ~~records~~ of visible emission notations of the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger (Process E), the aluminum blending and briquetting mixer (Process F), the spherule modifier (Process I), and the batching system loading hopper (Process J)~~ baghouse stack exhausts ~~once per day~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
- (b) To document compliance with Condition **D.2.6** ~~D.2.7~~, the Permittee shall maintain a **daily record** ~~records once per day~~ of the pressure drop on the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger (Process E), the aluminum blending and briquetting mixer (Process F), the spherule modifier (Process I), and the batching system loading hopper (Process J)~~ baghouses during normal operation when venting to the atmosphere. **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) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Upon further review, the OAQ has decided to make the following additional changes to the FESOP: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

Change 1:

IDEM, OAQ has added mail codes to the addresses listed in the permit for the following: Permit Branch; Compliance Branch; Compliance Data Section; Technical Support and Modeling; and Asbestos Section.

Change 2:

IDEM, OAQ added wording to all recordkeeping conditions for Visible Emissions Notations and Baghouse Parametric Monitoring to require the applicant to include an explanation in its daily record to indicate why a daily visible emission notation or pressure drop reading was not taken. The revised conditions are as follows:

D.1.9 ~~D.1.11~~ Record Keeping Requirements

- (a) ~~(e)~~ To document compliance with Condition **D.1.6** ~~D.1.8~~, the Permittee shall maintain a **daily record** ~~records~~ of visible emission notations of the **IDEX System** baghouse stack exhaust ~~once per day~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
- (b) ~~(d)~~ To document compliance with Condition **D.1.7** ~~D.1.9~~, the Permittee shall maintain a **daily record** ~~records once per day~~ of the pressure drop **across** ~~on~~ the baghouse **controlling the IDEX System** ~~during normal operation when venting to the atmosphere~~. **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).**

D.2.8 ~~D.2.9~~ Record Keeping Requirements

- (a) To document compliance with Condition **D.2.5** ~~D.2.6~~, the Permittee shall maintain a **daily record** ~~records~~ of visible emission notations of the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger, (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J)~~ baghouse stack exhausts ~~once per day~~. **The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).**
- (b) To document compliance with Condition **D.2.6** ~~D.2.7~~, the Permittee shall maintain a **daily record** ~~records once per day~~ of the pressure drop on the **A Line Pneumatic Conveyor System Segments No. 1 and No. 2, the C Line Separator, the two (2) D Line Separators, Aluminum Blending, Loading and Packaging Processes No. 1 and No. 2, the Briquetting and Packaging Process and the Emergency D Line Separator** ~~A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer~~

~~and bagger (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J)~~ baghouses during normal operation when venting to the atmosphere. **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).**

**Appendix A: Emission Calculations
IDEX System**

**Company Name: U.S. Granules Corporation
Address City IN Zip: 1433 Western Avenue, Plymouth, Indiana 46563
FESOP: F099-13894-00015
Reviewer: Patrick T. Brennan
Date: April 19, 2007**

THROUGHPUT ton/hr 4.0

THROUGHPUT
ton/yr
35,040

	POLLUTANT				
Emission Factor in lb/ton	PM/PM10	SO2	CO	VOC	NOX
Uncontrolled Potential Emissions in tons/yr	16,679	43.8	2.72	0.837	52.6
Controlled Potential Emissions in tons/yr	16.7	43.8	2.72	0.837	52.6

Methodology

Emission factors for VOC and CO are based on IDEM approved stack tests conducted at the source on January 21, 2004

Emission factors for PM and PM10 are based on IDEM approved stack tests conducted at the source on June 8, 2004, and represent emissions after control from the IDEX Kiln baghouse

Uncontrolled PM/PM10 emission rate = PM/PM10 Emission Rate in tons per year (after controls)/(1 - control efficiency of 99.9%)

Emission factors for SO2 and NOx are from AP 42 (5th Edition 1/95) Table 2.1-12, uncontrolled emission factors for refuse combustors

Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

PM/PM10 Emissions from Conveying and Packaging

Company Name: U.S. Granules Corporation
 Address City IN Zip: 1433 Western Avenue, Plymouth, Indiana 46563
 FESOP: F099-13894-00015
 Reviewer: Patrick T. Brennan
 Date: April 19, 2007

Baghouse	Particulate Matter Collected 2006 (tons/yr)	Annual Hours of Operation in 2006	8,760 hr/yr Uncontrolled PM/PM10 Emission Rate (tons/yr)	8,760 hr/yr Uncontrolled PM/PM10 Emission Rate (lb/hr)	Control Efficiency (%)	8,760 hr/yr Controlled PM/PM10 Emission Rate (tons/yr)	8,760 hr/yr Controlled PM/PM10 Emission Rate (lb/hr)
A Line Conveyor System	1,219.260	6,680	1598.910	365.048	99.9%	1.599	0.365
C Line Separator	46.258	3,380	119.888	27.372	99.9%	0.120	0.027
D Line Separators	23.880	5,560	37.624	8.590	99.9%	0.038	0.009
Aluminum Blending, Loading and Packaging Process 1	1.886	5,260	3.141	0.717	99.9%	0.003	0.001
Aluminum Blending, Loading and Packaging Process 2	0.359	1,000	3.145	0.718	99.9%	0.003	0.001
Briqueting and Packaging	0.359	1,000	3.145	0.718	99.9%	0.003	0.001
Emergency D Line Separator	23.880	5,560	37.624	8.590	99.9%	0.038	0.009
Totals	1,315.882		1803.476	411.752		1.803	0.412

Methodology

All PM/PM10 emissions calculations are based on data supplied by the applicant of material collected in the baghouses, adjusted to 8760 hrs per year of operation

Emission Rate in tons/yr (before controls) = Particulate Matter Collected (tons/yr) *(8760 hr/yr) /(annual hr/yr of operation)

Emission Rate in lbs/hr (before controls) = Emission Rate in tons per year (before controls)*(2000lbs/ton) / (8760 hr/yr)

Emission Rate in tons/yr (after controls) = Emission Rate in tons per year (before controls)*(1.0 -control efficiency)

Emission Rate in lbs/hr (after controls) = Emission Rate in pounds per hour (before controls)*(1.0 -control efficiency)

U.S. Granules Corporation
1433 Western Avenue, Plymouth, Indiana 46563
FESOP: F099-13894-00015

Summary of Revised PM and PM₁₀ Emissions Calculations and FESOP Limits

Process	Uncontrolled PM ₁₀ Emissions (tons/yr)	Baghouse Control Efficiency (%)	Controlled PM ₁₀ Emissions (tons/yr)	Controlled PM ₁₀ Emissions (lbs/hr)	326 IAC 6-3-2 Process Rule Limit (lbs/hr)	FESOP Limited PM ₁₀ Emissions (lbs/hr)	FESOP Limited PM ₁₀ Emissions (tons/yr)	PM Limits (lbs/hr)
IDEX System	16,679	99.9	16.7	3.81	10.4	10.4	45.6	10.4
A Line Pneumatic Conveyors	1,599	99.9	1.60	0.365	5.85	5.85	25.6	5.85
C Line Separator	120	99.9	0.120	0.027	5.85	2.00	8.80	2.00
D Line Separators	37.6	99.9	0.038	0.009	3.68	1.26	5.50	1.26
Blending, Loading and Packaging Process No. 1 (integral)	0.003*	99.9	0.003	0.001	8.56	0.80	3.50	0.80
Blending, Loading and Packaging Process No. 2 (integral)	0.003*	99.9	0.003	0.001	12.1	0.80	3.50	0.80
Briquetting and Packaging (integral)	0.003*	99.9	0.003	0.001	12.1	0.80	3.50	0.80
Emergency D Line Separator	37.6**	99.9	0.038	0.009	3.68	2.00	NA	2.00
Insignificant Activities and Fugitive	3.00	NA	3.00	NA	NA	0.68	3.00	0.69
Total	18,439		21.5	4.21			99.0	

* Blending, loading, briquetting and packaging operations involve packaging the final product, aluminum granules. Determinations were made in previous permitting (CP 099-2171) that the baghouse controls for these processes were integral to the process, and the PTE for these units was based on emissions after controls.

** The Emergency D Line Separator will only operate if the D Line Separator is out of service. Therefore, emissions from this baghouse are not counted in the Potential to Emit.

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

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

Source Background and Description

Source Name:	U.S. Granules Corporation
Source Location:	1433 Western Avenue, Plymouth, Indiana 46563
County:	Marshall
SIC Code:	3341
Operation Permit No.:	F 099-5463-00015
Operation Permit Issuance Date:	December 11, 1996
Permit Renewal No.:	F 099-13894-00015
Permit Reviewer:	Patrick Brennan/MES

The Office of Air Quality (OAQ) has reviewed a FESOP renewal application from U.S. Granules Corporation relating to the operation of a secondary aluminum processing source, utilizing clean, pre-consumer factory overruns of laminated aluminum foil.

Permitted Emission Units and Pollution Control Equipment

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

- (a) One (1) monoshear to IDEX rotary pyrolysis kiln, identified as Process A, constructed in 1995, equipped with a natural gas-fired afterburner and a baghouse with a flow rate of 27,330 actual cubic feet per minute, capacity: 4.0 tons of laminated aluminum foil per hour.
- (b) A/C Line hammermills, identified as Process B, constructed in 1970, controlled by a baghouse with a flow rate of 4,300 actual cubic feet per minute, capacity: 1.7 tons of aluminum foil per hour.
- (c) D Line hammermill, identified as Process C, constructed in 1987, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.085 tons of aluminum foil per hour.
- (d) One (1) aluminum blending mixer and bagger, identified as Process E, constructed in 1966, controlled by a baghouse which is integral to the process, with a flow rate of 4,000 actual cubic feet per minute, capacity: 3.0 tons of aluminum granules per hour.
- (e) One (1) aluminum blending and briquetting mixer, identified as Process F, constructed in 1991, controlled by two (2) baghouses which are integral to the process, with flow rates of 4,600 actual cubic feet per minute and 1,880 actual cubic feet per minute, capacity: 5.0 tons of aluminum granules per hour.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted emission units:

- (f) One (1) sphery modifier, identified as Process I, constructed in 2002, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 1.0 tons of aluminum stock per hour.

- (g) One (1) batching system loading hopper, identified as Process J, constructed in 1979, controlled by a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 10.0 tons of aluminum granules per hour.

The applicant has stated that these facilities were previously in existence, but had fugitive particulate emissions only. When the borings and turnings rotary kiln and H Line hammermill, identified as Process G, were removed from service, the sphery modifier, identified as Process I, and the batching system loading hopper, identified as Process J, were connected to the baghouse previously used for Process G. The fugitive PM and PM₁₀ emissions from these facilities were not included in the previous FESOP limits.

Emission Units and Pollution Control Equipment Removed

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

- (a) One (1) shredder/baler, identified as Process D, controlled by a baghouse with a flow rate of 7,000 actual cubic feet per minute, capacity: 3.75 tons per hour.
- (b) One (1) borings and turnings rotary kiln and H Line hammermill, identified as Process G, equipped with a natural gas-fired afterburner and a baghouse with a flow rate of 4,000 actual cubic feet per minute, capacity: 0.5 tons per hour.
- (c) Sixteen (16) charring ovens, known as Process H, controlled by one (1) venturi scrubber with a flow rate of 11,000 actual cubic feet per minute and two (2) wet packed towers with flow rates of 18,000 actual cubic feet per minute and 14,000 actual cubic feet per minute, capacity: 3.4 tons per hour for 2,675 hours.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.
- (b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.
- (c) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
- (d) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (e) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]
- (f) Cleaners and solvents characterized as follows: a) having a vapor pressure equal to or less than 2 kilopascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38°C (100°F) or; b) having a vapor pressure equal to or less than 0.7 kilopascals; 5 millimeters of mercury; or 0.1 pounds per square inch measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

- (g) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (h) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (i) One (1) gasoline-fired emergency generator, identified as EG-1, with a rated output of 35 brake horsepower (BHP), exhausting directly to the atmosphere.
- (j) One (1) natural gas-fired emergency generator, identified as EG-2, with a rated output of 7.5 KW, exhausting directly to the atmosphere.

Existing Approvals

The source has been operating under the previous FESOP 099-5463-00015, issued on December 11, 1996, and the following amendments and revisions:

- (a) SPM 099-8121-00015, issued on April 20, 1998,
- (b) SPM 099-9307-00015, issued on November 24, 1998, and
- (c) AA 099-12184-00015, issued on July 7, 2000.

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

FESOP 099-5463-00015, issued on December 11, 1996.

- (1) Portions of Conditions D.1.1, D.1.3, D.1.4, D.1.7, D.1.10, D.1.11 and D.1.12.

Reason not incorporated: Section D.1 of the FESOP contains requirements for the IDEX rotary pyrolysis kiln, identified as Process A, and the borings and turnings rotary kiln, identified as Process G. The borings and turnings rotary kiln (Process G) has been removed from service.

- (2) Portions of Conditions D.2.1, D.2.2, D.2.5, and D.2.7.

Reason not incorporated: Section D.2 of the FESOP contains requirements for the shredder/baler, identified as Process D. The shredder/baler (Process D) has been removed from service.

- (3) Entire Section D.3

Reason not incorporated: Section D.3 of the FESOP contains requirements for the sixteen (16) charring ovens, identified as Process H, which were part of an alternate operating scenario valid for 1997 only, during the process changeover from the charring ovens to the pyrolysis kiln. The charring ovens have been removed from service, and the alternative operating scenario is no longer necessary.

Air Pollution Control Justification as an Integral Part of the Process

The following justification was incorporated into this permit from the previous FESOP:

The aluminum blending mixer and bagger, identified as Process E, and the aluminum blending and briquetting mixer, identified as Process F, were constructed in 1966 and 1991, respectively. These emission units were permitted as registered emissions units in construction permit CP 099-2172-00015, issued on August 30, 1991. The level of permitting was based on PM emissions after the baghouse controls. The justification for this determination was as follows:

- (a) The primary product of this secondary aluminum processing source is fine aluminum granules.
- (b) The blending, bagging and briquetting operations are the final step in preparing the product for sale and shipment. The primary purpose of the baghouse controls for these operations is to prevent waste, and to recapture airborne product for blending, bagging and briquetting.

At the time, IDEM evaluated the justifications and agreed that the air pollution control equipment was considered as an integral part of the blending, bagging and briquetting processes. Therefore, the permitting level was determined using the potential to emit after the air pollution control equipment, and the sources were permitted as registered emission units. Operating conditions in the proposed permit will specify that these baghouses shall operate at all times when the blending, bagging and briquetting processes are in operation.

Enforcement Issue

- (a) IDEM is aware that equipment has been constructed prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.

The applicant has submitted information stating that the batching system loading hopper (Process J) and the sphery modifier (Process I) have existed at the source since 1979 and 2002 respectively, but have emitted fugitive emissions only. The only change to these facilities has been connection to the baghouse that was formerly used to control the borings and turnings rotary kiln (Process G). A test of these processes as configured with the baghouse has been performed, but no production work has been done.

These facilities were not included in previous construction permits or the original FESOP for the source.

- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the operation permit rules.

Recommendation

The staff recommends to the Commissioner that the 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 administratively complete FESOP Renewal application for the purposes of this review was received on February 7, 2001.

There was no notice of completeness letter mailed to the source.

Emission Calculations

The calculations submitted by the applicant during the preparation of FESOP 099-5463-00015, issued on December 11, 1996, were verified at the time and found to be accurate and correct. Since the issuance of the previous FESOP, there were emission reductions resulting from the removal from service of the borings and turnings rotary kiln, identified as Process G, the shredder/baler, identified as Process D, and the sixteen (16) charring ovens, identified as Process H. In addition, the source has now indicated that there are two facilities that were not included in the previous FESOP. The batching system loading hopper, identified as Process J, was constructed in 1979, and has not been used in several years. The source now wishes to reactivate this process as a backup to Process E. The sphery modifier, identified as Process I, was constructed in 2002. The only emissions from these two unpermitted emission units are PM and PM₁₀.

A summary of PM₁₀ emissions from all remaining and unpermitted facilities at the source is shown in the table in Appendix A, found on page 19 of 20 of this document. Emissions of all other criteria pollutants at the source are from the IDEX rotary pyrolysis kiln only, identified as Process A, and are shown in Appendix B, on page 20 of 20 of this document.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source, excluding the emission limits that were contained in the previous FESOP.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	3,794
PM ₁₀	3,794
SO ₂	6.48
VOC	315
CO	506
NO _x	40.3

HAPs	Unrestricted Potential Emissions (tons/yr)
Total	negligible

Potential to Emit of Previously Unpermitted Emission Units

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

is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

This table reflects the PTE before controls of the previously unpermitted emission units, the batching system loading hopper, identified as Process J, and the sphery modifier, identified as Process I. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential to Emit (tons/yr)
PM	1,539
PM ₁₀	1,539
SO ₂	-
VOC	-
CO	-
NO _x	-

Justification for Revision

These emission units are being incorporated into the FESOP renewal through a FESOP Significant Permit Revision. This revision is being performed pursuant to 326 IAC 2-8-11.1 (f)(1) because the potential to emit PM₁₀ from the unpermitted emission units is greater than twenty-five (25) tons per year.

Unrestricted Potential to Emit of Entire Source

This table reflects the unrestricted potential emissions of the source, including the previously unpermitted emission units.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	5,333
PM ₁₀	5,333
SO ₂	6.48
VOC	315
CO	506
NO _x	40.3

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. Since the source has not constructed any new emission units, the source's potential to emit is based on the emission units included in the original FESOP.

Process/emission unit	Potential to Emit After Issuance (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Process A, IDEX Rotary Pyrolysis Kiln	Less Than 27.1	Less Than 27.1	6.48	Less Than 24.0	Less Than 95.0	40.3	negligible
Process B, A/C Line Hammermills	Less Than 18.6	Less Than 18.6	-	-	-	-	-
Process C, D Line Hammermills	Less Than 12.1	Less Than 12.1	-	-	-	-	-
Process E, Mixer and Bagger (integral)	Less Than 9.00	Less Than 9.00	-	-	-	-	-
Process F, Blending and Bagging (integral)	Less Than 12.0	Less Than 12.0	-	-	-	-	-
Process I, Sphery Modifier	Less Than 3.00	Less Than 3.00	-	-	-	-	-
Process J, Batching System Loading Hopper	Less Than 14.9	Less Than 14.9	-	-	-	-	-
Insignificant Activities and Fugitive Emissions	3.00	1.00	negligible	2.82	4.03	0.78	negligible
Total PTE After Issuance	99.7	Less Than 100	6.48	26.8	Less Than 100	41.1	Single Less Than 10 Total less than 25

- Notes:
1. The PM₁₀ limits for each individual process are based on an apportionment of the FESOP limit according to the distribution of PTE between the processes. These limits will be enforced on an hourly basis.
 2. PM = PM₁₀ for all processes. The FESOP limits, when applied on an hourly basis, will satisfy the PM emission limits of 326 IAC 6-3-2.
 3. Because PM = PM₁₀, and the source is 1 of the 28 listed source categories, the FESOP limits also make the source minor under PSD rules.
 4. The VOC emissions from the IDEX Rotary Pyrolysis Kiln, Process A, are limited to less than 24.0 tons per year to make 326 IAC 8-1-6 not applicable. This limit is achieved through use of the natural-gas fired afterburner, with a control efficiency of 92.4%.
 5. The SO₂ and NO_x emissions from the IDEX Rotary Pyrolysis Kiln, Process A, are uncontrolled emissions based on the full production capacity of 4.0 tons per hour.
 6. The CO emissions from the IDEX Rotary Pyrolysis Kiln, Process A, are based on the use of the natural-gas fired afterburner, with a control efficiency of 81.2%.

County Attainment Status

The source is located in Marshall County.

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

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are nonattainment 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. Marshall 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. See the State Rule Applicability - Entire Source section of this document.
- (b) Marshall County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability for the source section.
- (c) Marshall County has been classified as attainment or unclassifiable in Indiana for the remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability - Entire Source section of this document.
- (d) On August 7, 2006, a temporary emergency rule took effect which revoked the one-hour ozone standard in Indiana. The Indiana Air Pollution Control Board has approved a permanent rule revision to incorporate these changes into 326 IAC 1-4-1. The permanent revision to 326 IAC 1-4-1 will take effect prior to the expiration of the emergency rule. Therefore, only the 8-hour ozone standard is considered in this operating permit.

Source Status

Existing Source PSD or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	99.7
PM ₁₀	<100
SO ₂	6.48
VOC	26.8
CO	<100
NO _x	41.1
Single HAP	neg
Combination HAPs	neg

This existing source is **not** a major stationary source for PSD purposes, because even though it is one of the 28 listed source categories, it does not emit one hundred (100) tons per year or greater of any regulated pollutant.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart T (Halogenated Solvent Cleaning Machines) are not included in the permit for this source, because the degreasing operation that is an insignificant activity uses no halogenated HAP solvents.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart RRR, (Secondary Aluminum Production) are not included in the permit for this source, for the following reasons.
 - (1) The source is a minor source of HAPs, and therefore could only be subject to the dioxin and furan requirements of Section 63.15 (c) of the rule.
 - (2) A review of the equipment at the source shows that none of the processes listed in Section 63.15(c) of the rule are present at the source.
 - (3) The IDEX rotary pyrolysis kiln, identified as Process A, is not subject to this rule because it is not a delacquering/decoating kiln as defined by Section 63.1503 of the rule. The applicant has obtained a decision from U.S. EPA Region V concerning the non-applicability of Subpart RRR to the rotary pyrolysis kiln, and was informed in a letter from George Czerniak, Chief of the Air Enforcement and Compliance Branch of Region V, to James Faulstich of U.S. Granules, dated

August 21, 2002, that the kiln is not a delacquering/decoating kiln as defined by Section 63.1503.

Subpart RRR defines a scrap dryer/delaquering kiln/decoating kiln as a unit used to remove organic contaminants, including plastic, from aluminum scrap prior to melting. Because no melting occurs at the plant, it was determined that Subpart RRR is not applicable.

- (4) The borings and turnings rotary kiln, identified as Process G, would have been subject to this rule, but the equipment has been removed from service.
- (d) There are no other National Emission Standards for Hazardous Air Pollutants included in the permit for this source.

State Rule Applicability – Entire Source

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

The source was constructed and began operating as an aluminum recycling operation in 1950. Several modifications were made to the source during the 1960's and 1970's. Because this construction commenced prior to August 7, 1977, the source was not subject to the PSD requirements of 326 IAC 2-2.

A modification to the source was permitted under CP 099-4504-00015, issued on August 15, 1995, and was constructed in 1995. At that time it was determined that the existing source was a major stationary source under PSD rules, because at least one regulated pollutant (carbon monoxide) was emitted at a rate of 100 tons per year, and this operation belongs to one of the twenty-eight (28) listed source categories under 326 IAC 2-2.

The modification permitted under CP 099-4504-00015 was for the replacement of the sixteen (16) charring ovens with the IDEX rotary pyrolysis kiln, equipped with a natural gas-fired afterburner. This modification resulted in a net decrease in emissions for most criteria pollutants, and following the modification no pollutant was emitted at levels that exceeded the PSD thresholds. It was therefore determined that pursuant to 326 IAC 2-2, the PSD requirements did not apply.

FESOP 099-5463-00015, was issued to the source on December 11, 1996, confirming that the source is a minor source pursuant to 326 IAC 2-2, and that the PSD requirements did not apply.

The previously unpermitted emission units that are being incorporated into this FESOP renewal (Processes I and J) as a Significant Permit Revision, because uncontrolled emissions of PM₁₀ are greater than twenty-five (25) tons per year. However, emissions from these facilities after controls allow the source to remain a FESOP.

326 IAC 2-6 (Emission Reporting)

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

326 IAC 2-8-4 (FESOP)

Pursuant to this rule, the amount of CO, PM₁₀ and VOC shall be limited to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-7, do not apply. See Appendices A and B for the limits for each emission unit.

The natural gas-fired afterburner controlling the IDEX rotary pyrolysis kiln and the baghouses controlling all production facilities shall be in operation at all times these facilities are in operation.

326 IAC 5-1 (Opacity Limitations)

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

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

State Rule Applicability – Individual Facilities

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

- (a) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the monoshear to IDEX rotary pyrolysis kiln, identified as Process A, shall not exceed 10.4 pounds per hour when operating at a process weight rate of 4.0 tons per hour.

The baghouse dust collector shall be in operation at all times the monoshear to IDEX rotary pyrolysis kiln is in operation, in order to comply with this limit.

The rotary pyrolysis kiln can comply with this rule because the PM emission rate after control is 0.400 pounds per hour.

- (b) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the A/C Line hammermills, identified as Process B, shall not exceed 5.85 pounds per hour when operating at a process weight rate of 1.7 tons per hour.

The baghouse dust collector shall be in operation at all times the A/C Line hammermills are in operation, in order to comply with this limit.

The A/C Line hammermills can comply with this rule because the PM emission rate after control is 0.078 pounds per hour.

- (c) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the D Line hammermill, identified as Process C, shall not exceed 3.68 pounds per hour when operating at a process weight rate of 0.85 tons per hour.

The baghouse dust collector shall be in operation at all times the D Line hammermill is in operation, in order to comply with this limit.

The D Line hammermill can comply with this rule because the PM emission rate after control is 0.034 pounds per hour.

- (d) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the aluminum blending mixer and bagger, identified as Process E, shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour.

The baghouse dust collector shall be in operation at all times the aluminum blending mixer and bagger is in operation, in order to comply with this limit.

The aluminum blending mixer and bagger can comply with this rule because the PM emission rate after control is 1.37 pounds per hour.

- (e) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the aluminum blending and briquetting mixer, identified as Process F, shall not exceed 12.1 pounds per hour when operating at a process weight rate of 5.0 tons per hour.

The two (2) baghouse dust collectors shall be in operation at all times the aluminum blending and briquetting mixer is in operation, in order to comply with this limit.

The aluminum blending and briquetting mixer can comply with this rule because the PM emission rate after control is 2.06 pounds per hour.

- (f) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the sphery modifier, identified as Process I, shall not exceed 4.10 pounds per hour when operating at a process weight rate of 1.0 tons per hour.

The baghouse dust collector shall be in operation at all times sphery modifier is in operation, in order to comply with this limit.

The sphery modifier can comply with this rule because the PM emission rate after control is 0.111 pounds per hour.

- (g) Pursuant to 326 IAC 6-3-2, the allowable particulate emission rate from the batching system loading hopper, identified as Process J, shall not exceed 19.2 pounds per hour when operating at a process weight rate of 10.0 tons per hour.

The baghouse dust collector shall be in operation at all times the batching system loading hopper is in operation, in order to comply with this limit.

The batching system loading hopper can comply with this rule because the PM emission rate after control is 3.0 pounds per hour.

- (h) Compliance with the limits in items (a) through (g) shall be calculated as follows:

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

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

326 IAC 8-1-6 (New Facilities, General Reduction requirements)

The IDEX rotary pyrolysis kiln, identified as Process A, was constructed after January 1, 1980, has the potential to emit more than twenty-five (25) tons per year of VOC, and is governed by no other Article 8 rule.

Pursuant to FESOP 099-5463-00015, issued on December 11, 1996, VOC emissions from the IDEX rotary pyrolysis kiln (Process A) will be limited to 24.0 tons per year, and the natural gas-fired afterburners shall be in operation at all times the rotary pyrolysis kiln is in operation. Therefore, the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction requirements) are not applicable.

The natural gas-fired afterburner shall be in operation at all times that the rotary pyrolysis kiln is in operation, with a minimum control efficiency of 92.4%. Compliance with this limit is calculated as follows:

Uncontrolled VOC emissions of 315 tons per year x (1.0 - .924) = 23.9 tons per year of VOC

326 IAC 9-1-2 (Carbon Monoxide Emission Limits)

The IDEX rotary pyrolysis kiln (Process A) is not subject to the requirements of 326 IAC 9-1-2 (Carbon Monoxide Emission Limits) because the source is not a petroleum refiner, ferrous metal smelter or refuse incinerator.

State Rule Applicability - Insignificant Activities

326 IAC 8-3 (Organic Solvent Degreasing Operations)

The source is equipped with one (1) parts cleaner with solvent use that does not exceed 145 gallons per twelve (12) months, without remote solvent reservoirs, installed after July 1, 1990, and located in Marshall County. Therefore, the requirements of 326 IAC 8-3-2, Organic Solvent Degreasing Operations: Cold Cleaner Operation and 326 IAC 8-3-5, Organic Solvent Degreasing Operations: Cold Cleaner Degreaser Operation and Control, are applicable. Compliance with 326 IAC 8-3-5 will satisfy the requirements of 326 IAC 8-3-2.

- (a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaner degreasers shall ensure that the following requirements are met:
- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at

thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of the cold cleaning degreasers shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Testing Requirements

All testing requirements from previous approvals were incorporated into this FESOP.

- (a) Previous stack tests were conducted as follows:
 - (1) VOC and CO stack testing of the IDEX rotary pyrolysis kiln, identified as Process A, was conducted on January 21, 2004.
 - (2) PM and PM₁₀ stack testing of the IDEX rotary pyrolysis kiln, identified as Process A, was conducted on June 8, 2004.
- (b) Stack tests to show compliance with 326 IAC 6-3-2, 326 IAC 2-8-4 and to render the requirements of 326 IAC 8-1-6 and 326 IAC 2-2 not applicable are proposed as follows:

- (1) To demonstrate compliance with 326 IAC 2-8-4, and render the requirements of 326 IAC 8-1-6 and 326 IAC 2-2 not applicable, a compliance stack test of VOC from the IDEX rotary pyrolysis kiln shall be performed within five (5) years of the last stack test of January 21, 2004, which is January 21, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration.
- (2) To demonstrate compliance with 326 IAC 2-8-4, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of CO from the IDEX rotary pyrolysis kiln, shall be performed within five (5) years from the last stack test of January 21, 2004, which is January 21, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration.
- (3) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the IDEX rotary pyrolysis kiln, shall be performed within five (5) years from the last stack test of June 8, 2004, which is June 8, 2009, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.
- (4) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the baghouse controlling the sphery modifier (Process I) and the batching system loading hopper (Process J), shall be performed within sixty (60) days following issuance of the FESOP permit, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.
- (5) To demonstrate compliance with 326 IAC 2-8-4 and 326 IAC 6-3-2, and render the requirements of 326 IAC 2-2 not applicable, a compliance stack test of PM and PM₁₀ from the baghouses controlling the aluminum blending and bagger process (Process E) and the aluminum blending and briquetting mixer (Process F), shall be performed within one hundred and eighty (180) days following issuance of the FESOP permit, utilizing methods as approved by the Commissioner. This test shall be repeated no less than once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as

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

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

(1) Parametric Monitoring, IDEX Rotary Pyrolysis Kiln Natural Gas Fired Afterburner

- (a) The natural gas-fired afterburner at the IDEX rotary pyrolysis kiln shall operate at all times that the process is in operation. When operating, the afterburner shall maintain a minimum operating temperature of 1400°F, or a temperature determined in the most recent stack test to maintain a minimum destruction of at least 92.4 percent of the VOC captured.
- (b) A continuous monitoring system shall be calibrated, maintained, and operated on the natural gas-fired afterburner for measuring operating temperature. The output of this system shall be recorded as an hourly average. The Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the hourly average temperature of the thermal oxidizer is below 1400°F, or the temperature determined in the most recent stack test to maintain a minimum destruction of at least 93 percent of the VOC captured. An hourly average temperature that is below this level is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(2) Parametric Monitoring, Baghouses

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the IDEX rotary pyrolysis kiln (Process A), A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J), at least once per day when these processes are in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range of operation, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The normal range of operation for each baghouse is as follows:

- (a) IDEX rotary pyrolysis kiln (Process A), 1.0 to 8.0 inches of water
- (b) A/C Line hammermills (Process B), 1.0 to 8.0 inches of water
- (b) D Line hammermill (Process C), 1.0 to 6.0 inches of water
- (d) Aluminum blending mixer and bagger (Process E), 1.0 to 8.0 inches of water
This baghouse is integral to the process.

- (e) Aluminum blending and briquetting mixer (Process F), 1.0 to 8.0 inches of water
This baghouse is integral to the process.
- (f) Sphery modifier (Process I), 3.0 to 6.0 inches of water
- (g) Batching system loading hopper (Process J), 3.0 to 6.0 inches of water

A pressure reading that is outside the above mentioned ranges is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

(3) Visible Emission Notations

- (a) Visible emission notations of the IDEX rotary pyrolysis kiln (Process A), A/C Line hammermills (Process B), the D Line hammermill (Process C), the aluminum blending mixer and bagger (Process E), the aluminum blending and briquetting mixer (Process F), the sphery modifier (Process I), and the batching system loading hopper (Process J) baghouse stack exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(4) Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. 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).

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

These monitoring conditions are necessary because IDEX rotary pyrolysis kiln (Process A) must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-8 (FESOP), and to render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction requirements) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

The monitoring conditions for all baghouses are necessary to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-8 (FESOP), and to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Conclusion

The operation of this secondary aluminum processing source shall be subject to the conditions of the **FESOP 099-13894-00015**.

APPENDIX A

Summary of Applicant Submitted PM and PM₁₀ Emission Calculations and FESOP Limits

Process	Uncontrolled PM ₁₀ Emissions (tons/yr)	Baghouse Control Efficiency (%)	Controlled PM ₁₀ Emissions (tons/yr)	Controlled PM ₁₀ Emissions (lbs/hr)	326 IAC 6-3-2 Process Rule Limit (lbs/hr)	FESOP Limited PM ₁₀ Emissions (lbs/hr)	FESOP Limited PM ₁₀ Emissions (tons/yr)	PM Limits (lbs/hr)
Process A, IDEX Rotary Pyrolysis Kiln	1,752	99.9	1.75	0.400	10.4	6.19	27.1	6.19
Process B, A/C Line Hammermills	340	99.9	0.340	0.078	5.85	4.25	18.6	4.25
Process C D Line Hammermill	148	99.9	0.148	0.034	3.68	2.77	12.1	2.77
Process E, Mixer and Bagger	6.0*	99.9	6.0	1.37	8.56	2.06	9.00	2.06
Process F, Blending and Briquetting	9.0*	99.9	9.0	2.06	12.1	2.74	12.0	2.74
Process I, Sphery Modifier	212	99.0	0.485	0.111	4.10	0.68	3.0	0.68
Process J, Batching System Loading Hopper	1,327	99.0	13.14	3.00	19.2	3.40	14.9	3.40
Insignificant Activities and Fugitive	3.0	NA	3.0	NA	NA	NA	3.0	0.68
Total	3,794		33.9				99.7	

* Process E, Mixing and Bagging, and Process F, Blending and Bagging, involve packaging the final product, aluminum granules. Determinations were made in previous permitting (CP 099-2171) that the baghouse controls were integral to the process, and the PTE for these units was based on emissions after controls.

APPENDIX B

Summary of Applicant Submitted Emission Calculations and FESOP Limits for Process A, the IDEX Rotary Pyrolysis Kiln

Pollutant	Uncontrolled Emissions (tons/yr)	Actual Control Efficiency (%)	Controlled Emissions (tons/yr)	Control Efficiency (%) Necessary to Meet FESOP Limit	FESOP Limit (tons/yr)
PM	1,752	99.9	1.75	98.4	27.1
PM ₁₀	1,752	99.9	1.75	98.4	27.1
SO ₂	6.48	-	6.48	-	6.48
VOC	315	97.0	9.46	92.4	24.0
CO	506	97.0	15.2	81.2	95.0
NO _x	40.3	-	40.3	-	40.3

Note: Because PM = PM₁₀, and the source is 1 of the 28 listed source categories, the FESOP limits also make the source minor under PSD rules.