



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
MC 61-53  
(317) 232-8603  
(800) 451-6027  
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: January 18, 2008

RE: Novozyme Biologicals, Inc. - Dry Agricultural Products / 113-25244-00088

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

### Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures  
FNPER.dot12/03/07



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Indianapolis, Indiana 46204-2251  
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## NEW SOURCE REVIEW and MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Novozymes Biologicals, Inc. Dry Agricultural Products  
South State Road 9,  
Merriam, Indiana 46701**

(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.

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages. 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 2-6.1-6, applicable to those conditions.

Operation Permit No.: MSOP 113-25244-00088	
Issued by: <i>Original signed by</i> Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: January 18, 2008  Expiration Date: January 18, 2018

## TABLE OF CONTENTS

<b>A</b>	<b>SOURCE SUMMARY .....</b>	<b>4</b>
A.1	General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]	
A.2	Emission Units and Pollution Control Equipment Summary	
<b>B</b>	<b>GENERAL CONDITIONS .....</b>	<b>8</b>
B.1	Definitions [326 IAC 2-1.1-1]	
B.2	Revocation of Permits [326 IAC 2-1.1-9(5)]	
B.3	Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4] [326 IAC 2-8]	
B.4	Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]	
B.5	Term of Conditions [326 IAC 2-1.1-9.5]	
B.6	Enforceability	
B.7	Severability	
B.8	Property Rights or Exclusive Privilege	
B.9	Duty to Provide Information	
B.10	Certification	
B.11	Annual Notification [326 IAC 2-6.1-5(a)(5)]	
B.12	Preventive Maintenance Plan [326 IAC 1-6-3]	
B.13	Prior Permits Superseded [326 IAC 2-1.1-9.5]	
B.14	Termination of Right to Operate [326 IAC 2-6.1-7(a)]	
B.15	Permit Renewal [326 IAC 2-6.1-7]	
B.16	Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]	
B.17	Source Modification Requirement	
B.18	Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC13-17-3-2][IC 13-30-3-1]	
B.19	Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]	
B.20	Annual Fee Payment [326 IAC 2-1.1-7]	
B.21	Credible Evidence [326 IAC 1-1-6]	
<b>C</b>	<b>SOURCE OPERATION CONDITIONS .....</b>	<b>13</b>
C.1	Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]	
C.2	Opacity [326 IAC 5-1]	
C.3	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.4	Incineration [326 IAC 4-2] [326 IAC 9-1-2]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]	
C.7	Stack Height [326 IAC 1-7]	
C.8	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]	
C.9	Performance Testing [326 IAC 3-6]	
C.10	Compliance Requirements [326 IAC 2-1.1-11]	
C.11	Compliance Monitoring [326 IAC 2-1.1-11]	
C.12	Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]	
C.13	Instrument Specifications [326 IAC 2-1.1-11]	
C.14	Response to Excursions or Exceedances	
C.15	Actions Related to Noncompliance Demonstrated by a Stack Test	
	<b>Record Keeping and Reporting Requirements</b>	
C.16	Malfunctions Report [326 IAC 1-6-2]	
C.17	General Record Keeping Requirements[326 IAC 2-6.1-5]	
C.18	General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]	

<b>D.1</b>	<b>EMISSIONS UNIT OPERATION CONDITIONS – Dry Agricultural Products Blending Operation .....</b>	<b>19</b>
	<b>Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]</b>	
D.1.1	Particulate Matter (PM) [326 IAC 6-3-2]	
	<b>Compliance Determination Requirements</b>	
D.1.2	Particulate Matter (PM)	
	<b>Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]</b>	
D.1.3	Visible Emission Notations	
D.1.4	Parametric Monitoring	
D.1.5	Broken or Failed Bag Detection	
D.1.6	Cyclone Failure Detection	
	<b>Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]</b>	
D.1.7	Record Keeping Requirements	
D.1.8	Reporting Requirements	
	<b>Annual Notification .....</b>	<b>25</b>
	<b>Malfunction Report.....</b>	<b>27</b>
	<b>Attachment A: Fugitive Dust Plan .....</b>	<b>29</b>

## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

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The Permittee owns and operates a dry agricultural products blending facility.

Source Address:	South State Road 9, Merriam, Indiana 46701
Mailing Address:	3434 South 400 East, Albion, Indiana 46701
General Source Phone:	(260) 693-6579
SIC Code:	2875
County Location:	Noble
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary

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

#### Raw Materials Receiving Area

- (a) One (1) raw material receiving system with a maximum design capacity of sixty (60) tons per hour including:
  - (i) One (1) raw material receiving pit, approved for construction in 2007, identified as P1A, with emissions controlled by cyclone C1 and exhausted through Stack S1,
  - (ii) One (1) enclosed raw material auger, approved for construction in 2007, identified as P1C, and feeding into Dryer 1 (P2A)
  - (iii) One (1) three (3) MMBtu/hr natural gas fired raw material dryer, approved for construction in 2007, identified as P2A, with a maximum design product throughput of four (4) tons per hour, with emissions controlled by cyclone C1 and exhausted through Stack S1.

#### Granular Products Line

- (b) One (1) fifteen (15) MMBtu/hr natural gas fired batch product pellet dryer, approved for construction in 2007, identified as P6A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.
- (c) One (1) enclosed batch pellet cooler, approved for construction in 2007, identified as P6B, with a maximum design throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.

- (d) One (1) bulk storage bin area, approved for construction in 2007, identified as P3A-P3D, with a maximum design raw material throughput of sixty (60) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (e) One (1) batch hopper area, approved for construction in 2007, identified as P4A, P4B & P4G, with a maximum design raw material throughput of thirteen (13) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (f) One (1) enclosed batch rotary screen and clump breaker, approved for construction in 2007, identified as P4E & P4F, with a maximum design raw material throughput of twelve (12) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (g) Two (2) batch blenders, approved for construction in 2007, identified as P4H & P4I, with a maximum design product throughput of ten (10) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (h) One (1) blend hopper area with a maximum design product throughput of nine (9) tons per hour, identified as P5B, approved for construction in 2007, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (i) Two (2) enclosed batch pelletizers, approved for construction in 2007, identified as P5C & P5D, with a maximum design product throughput of eighteen (18) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (j) One (1) batch pellet screen, approved for construction in 2007, identified as P5F, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (k) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (l) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7C, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (m) One (1) enclosed two deck pellet screen, approved for construction in 2007, identified as P7D, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (n) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7I, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (o) One (1) enclosed four deck pellet screen, approved for construction in 2007, identified as P7J, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (p) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7K, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (q) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7L, with a maximum design raw material throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

- (r) One (1) rotary screen, approved for construction in 2007, identified as P7M, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (s) One (1) batch weigh hopper, approved for construction in 2007, identified as P8A, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (s) One (1) batch bag filler, approved for construction in 2007, identified as P8B, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (t) One (1) batch bag closer/sewer, approved for construction in 2007, identified as P8D, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

#### Dry Blend/Gel Products Line

- (u) One (1) batch blender, approved for construction in 2007, identified as P9A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.
- (v) One (1) batch weigh hopper/Packaging machine, approved for construction in 2007, identified as P10B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.

#### Dry Blend/Insoluble Products Line

- (w) One (1) batch blender, approved for construction in 2007, identified as P11A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.
- (x) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P12B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.

#### Dry Blend/Soluble Products Line

- (y) One (1) batch blender, approved for construction in 2007, identified as P13A, with a maximum design product throughput of two (2) tons per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (z) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P14B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (aa) One (1) Packaging machine/bucket filler, approved for construction in 2007, identified as P14C, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.

#### Insignificant Activities

- (bb) Nine (9) less than 0.25 MMBtu/hr propane or liquefied petroleum gas-fired space heaters, identified as P15-P19.

- (cc) Combustion source flame safety purging on startup.
- (dd) Repair or replacement of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (ee) Heat exchanger cleaning and repair.
- (ff) Process vessel degassing and cleaning to prepare for internal repairs.
- (gg) Paved and unpaved roads and parking lots with public access.
- (hh) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (ii) Purge double block and bleed valves.

## **SECTION B GENERAL CONDITIONS**

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

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

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

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

### **B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4] [326 IAC 2-8]**

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This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-6 when prior to the start of operation, the following requirements are met:

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

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

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- (a) This permit, 113-25244-00088, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

### **B.6 Enforceability**

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

**B.7 Severability**

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

**B.8 Property Rights or Exclusive Privilege**

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

**B.9 Duty to Provide Information**

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

**B.10 Certification**

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

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

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:  
  
Compliance Branch, Office of Air Quality  
Indiana Department of Environmental Management  
100 North Senate Avenue,  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

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- (a) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within

ninety (90) days after issuance of this permit, for the source as described in 326 IAC 1-6-3. At a minimum, the PMPs shall include:

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

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

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- (a) All terms and conditions of permits established prior to 113-25244-00088 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
  - (2) revised, or
  - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

**B.14 Termination of Right to Operate [326 IAC 2-6.1-7(a)]**

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The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

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

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- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ, and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
  - (1) Submitted at least ninety (90) days prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.16 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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

B.17 Source Modification Requirement

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

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

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

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

- (c) as authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) as authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) as authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

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

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- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:  
  
Indiana Department of Environmental Management  
Permits Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204-2251  
  
The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

**B.20 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.21 Credible Evidence [326 IAC 1-1-6]**

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

## SECTION C

## SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

**C.2 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.3 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. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

**C.4 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.5 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). 326 IAC 6-4-2(4) is not federally enforceable.

**C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]**

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted by the Permittee to IDEM. The plan is included in this permit and is attached hereto as Attachment A.

**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, IN 46204-2251

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

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

- (g) Indiana Accredited Asbestos Inspector  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

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- (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, IN 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]**

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Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

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

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

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

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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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]

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

**Corrective Actions and Response Steps**

C.14 Response to Excursions or Exceedances

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

- (2) monitor performance data, if applicable; and
- (3) corrective actions taken.

**C.15 Actions Related to Noncompliance Demonstrated by a Stack Test**

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

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

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

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

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

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- (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 or LA initials within a reasonable time.

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

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

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### **Emissions Unit Description:**

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

#### Raw Materials Receiving Area

- (a) One (1) raw material receiving system with a maximum design capacity of sixty (60) tons per hour including:
  - (i) One (1) raw material receiving pit, approved for construction in 2007, identified as P1A, with emissions controlled by cyclone C1 and exhausted through Stack S1,
  - (ii) One (1) enclosed raw material auger, approved for construction in 2007, identified as P1C, and feeding into Dryer 1 (P2A)
  - (iii) One (1) three (3) MMBtu/hr natural gas fired raw material dryer, approved for construction in 2007, identified as P2A, with a maximum design product throughput of four (4) tons per hour, with emissions controlled by cyclone C1 and exhausted through Stack S1.

#### Granular Products Line

- (b) One (1) fifteen (15) MMBtu/hr natural gas fired batch product pellet dryer, approved for construction in 2007, identified as P6A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.
- (c) One (1) enclosed batch pellet cooler, approved for construction in 2007, identified as P6B, with a maximum design throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.
- (d) One (1) bulk storage bin area, approved for construction in 2007, identified as P3A-P3D, with a maximum design raw material throughput of sixty (60) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (e) One (1) batch hopper area, approved for construction in 2007, identified as P4A, P4B & P4G, with a maximum design raw material throughput of thirteen (13) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (f) One (1) enclosed batch rotary screen and clump breaker, approved for construction in 2007, identified as P4E & P4F, with a maximum design raw material throughput of twelve (12) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (g) Two (2) batch blenders, approved for construction in 2007, identified as P4H & P4I, with a maximum design product throughput of ten (10) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (h) One (1) blend hopper area with a maximum design product throughput of nine (9) tons per hour, identified as P5B, approved for construction in 2007, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (i) Two (2) enclosed batch pelletizers, approved for construction in 2007, identified as P5C

& P5D, with a maximum design product throughput of eighteen (18) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

- (j) One (1) batch pellet screen, approved for construction in 2007, identified as P5F, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (k) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (l) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7C, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (m) One (1) enclosed two deck pellet screen, approved for construction in 2007, identified as P7D, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (n) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7I, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (o) One (1) enclosed four deck pellet screen, approved for construction in 2007, identified as P7J, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (p) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7K, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (q) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7L, with a maximum design raw material throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (r) One (1) rotary screen, approved for construction in 2007, identified as P7M, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (s) One (1) batch weigh hopper, approved for construction in 2007, identified as P8A, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (t) One (1) batch bag filler, approved for construction in 2007, identified as P8B, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (u) One (1) batch bag closer/sewer, approved for construction in 2007, identified as P8D, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

Dry Blend/Gel Products Line

- (v) One (1) batch blender, approved for construction in 2007, identified as P9A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.

- (w) One (1) batch weigh hopper/Packaging machine, approved for construction in 2007, identified as P10B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.

Dry Blend/Insoluble Products Line

- (x) One (1) batch blender, approved for construction in 2007, identified as P11A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.
- (y) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P12B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.

Dry Blend/Soluble Products Line

- (z) One (1) batch blender, approved for construction in 2007, identified as P13A, with a maximum design product throughput of two (2) tons per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (aa) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P14B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (bb) One (1) Packaging machine/bucket filler, approved for construction in 2007, identified as P14C, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.

Insignificant Activities

- (cc) Nine (9) less than 0.25 MMBtu/hr propane or liquefied petroleum gas-fired space heaters, identified as P15-P19.

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

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

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate emissions rate from the following processes shall be less than the following allowable limits.

Process	Process ID	Control ID	PWR (tons/hr)	Allowable Limit (lb/hr)
Raw Materials Receiving				
Receiving pit	P1A	C1	60*	46.29*
Raw material auger	P1C	C1	4	10.38
Raw material dryer 1	P2	C1	4	10.38

Process	Process ID	Control ID	PWR (tons/hr)	Allowable Limit (lb/hr)
<b>Granular Products Line</b>				
Pellet dryer 2	P6A	C2	9	17.87
Pellet cooler	P6B	C2	9	17.87
Bulk Storage Bin Area	P3A - P3D	C3	60*	46.29*
Loading majors hopper	P4A	C3	10	19.18
Loading minors hopper	P4B	C3	2	6.52
Loading minors adds hopper	P4G	C3	1	4.10
Rotary screen	P4E	C3	12	21.67
Rotary screen/clump breaker	P4F	C3	12	21.67
Blender 1	P4H	C3	10	19.18
Blender 2	P4I	C3	10	19.18
Load blend hopper	P5B	C3	9	17.87
Screen	P5F	C3	9	17.87
Pellet crumbler	P7A	C3	9	17.87
Screen	P7D	C3	9	17.87
Screen	P7J	C3	9	17.87
Crumbler	P7K	C3	9	17.87
Screen	P7M	C3	6	13.62
Loading weigh hopper	P8A	C3	6	13.62
Bag filler	P8B	C3	6	13.62
<b>Dry Blend/Gel Products Line</b>				
Blender	P9A	C4	3	8.56
Weighing/packaging hopper	P10A	C4	3	8.56
<b>Dry Blend/Insoluble Products Line</b>				
Blender	P11A	C5	3	8.56
Loading/packaging hopper	P12A	C5	3	8.56
Bag filler	P12B	C5	0.25	1.62
<b>Dry Blend/Soluble Products Line</b>				
Blender	P13A	C6	2	6.52
Loading/packaging hopper	P14A	C6	2	6.52
Bag filler	P14B	C6	0.25	1.62
Bucket filler	P14C	C6	0.25	1.62

\* = PWR is in excess of 60,000 lb/hr

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

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

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

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

$$E = 55 P^{0.11} - 40$$

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

### Compliance Determination Requirements

#### D.1.2 Particulate Control

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- (a) In order to comply with Condition D.1.1, the cyclone, C1, for particulate control shall be in operation and control emissions from the Granular Products Line at all times the dry agricultural products blending facility is in operation.
- (b) In order to comply with Condition D.1.1, the baghouses, C2-C6, for particulate control shall be in operation and control emissions from the dry agricultural products blending facility at all times the dry agricultural products blending facility is in operation.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.1.3 Visible Emission Notations

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- (a) Daily visible emission notations of the dry agricultural products blending operations stack exhausts, identified as S1 - S6, shall be performed 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.1.4 Parametric Monitoring

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The Permittee shall record the pressure drop across the cyclone, C1, and each of the baghouses, C2 - C6, used in conjunction with the dry agricultural products blending operation, at least once daily when the manufacturing process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the cyclone or baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established by the device manufacturer, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

#### D.1.5 Broken or Failed Bag Detection

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In the event that baghouse failure has been observed:

- (1) 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).
- (2) For a single compartment baghouse controlling emissions from the dry agricultural products blending operation, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. 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).

#### D.1.6 Cyclone Failure Detection

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In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have 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).

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

#### D.1.7 Record Keeping Requirements

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- (a) To document compliance with Condition D.1.3, the Permittee shall maintain daily records of the visible emission notations of the cyclone and baghouse stack exhaust for stacks S1 - S6. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (e.g. the process did not operate that day).
- (b) To document compliance with Condition D.1.4, the Permittee shall maintain daily records of the pressure drop across the cyclone, C1, and each of the baghouses, C2 - C6, controlling the dry agricultural products blending facility. The Permittee shall include in its daily record when a pressure drop notation is not taken and the reason for the lack of a pressure drop notation, (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  
COMPLIANCE BRANCH**

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

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

<b>Company Name:</b>	<b>Novozymes Biologicals, Inc. Dry Agricultural Products</b>
<b>Address:</b>	<b>South State Road 9, Merriam, IN 46701</b>
<b>Mailing:</b>	<b>3434 South 400 East, Albion, IN 46701</b>
<b>Phone #:</b>	<b>(260) 693-6579</b>
<b>MSOP #:</b>	<b>MSOP 113-25244-00088</b>

I hereby certify that Novozymes Biologicals, Inc. Dry Agricultural Products is  still in operation.  
 no longer in operation.

I hereby certify that Novozymes Biologicals, Inc. Dry Agricultural Products is  
 in compliance with the requirements of MSOP 113-25244-00088.  
 not in compliance with the requirements of MSOP 113-25244-00088.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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

<b>Noncompliance:</b>

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## MALFUNCTION REPORT

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

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

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

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

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

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

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

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/19\_\_\_\_    \_\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/19\_\_\_\_    \_\_\_\_\_ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO<sub>2</sub>, VOC, OTHER: \_\_\_\_\_

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL\* SERVICES: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: \_\_\_\_\_

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: \_\_\_\_\_

INTERIM CONTROL MEASURES: (IF APPLICABLE) \_\_\_\_\_

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2



## **ATTACHMENT A – FUGITIVE DUST CONTROL PLAN**

### **Novozymes Biologicals, Inc. Dry Agricultural Products**

### **Noble County, Indiana**

- (a) The paved roads and parking lots shall be controlled by vacuum sweeping on an as needed basis.
- (b) The unpaved roads and parking lots shall be controlled by treating the surfaces with a suitable and effective oil or chemical dust suppressant that is approved by the Commissioner, and/or by spraying the surfaces with water. The suppressant used shall be applied on an as needed basis.
- (c) The material conveyors and bucket elevators shall be controlled by totally enclosing each conveyor on the top and sides.
- (d) The transportation of material by truck, front end loaders, or similar vehicles shall be controlled by completely enclosing and/or tarping the applicable vehicles, minimizing the vehicular distance between the transfer points, and maintaining each vehicle body in such a condition that prevents any leaks of material.
- (e) The Raw Materials Receiving Area shall be controlled by partially enclosing the overall unloading area, collecting the emissions from the receiving pit, and exhausting all collected emissions to cyclone C1.
- (f) The storage bins and hoppers, crushers, grinders, screening and mixing units, dryers, and final screen/bagging process shall be controlled by enclosing each emission unit, minimizing the free fall distance between points, and exhausting all emissions collected to cyclone, C1, or baghouses, C2 - C6.
- (g) The hauling and dumping of solid waste (as defined in IC 13-7-1-2(10)) shall be controlled by minimizing the free fall distance from the baghouse and/or process equipment when loading or unloading the collected material and enclosing or covering the material when hauling.
- (h) The building openings other than Stacks S1 - S6, shall be controlled by implementing an in-house operating and procedure maintenance program including the maintenance and operating protocol of cyclone, C1, and baghouses, C2 - C6, as specified in Conditions D.1.2, D.1.3, D.1.4, and D.1.5, and operating and maintaining the process equipment such that visible emissions are minimized.

An "As Needed Basis" means the frequency or quantity of application necessary to minimize visible particulate matter emissions.

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

Technical Support Document (TSD) for a  
New Source Review (NSR) and  
Minor Source Operating Permit (MSOP)

**Source Background and Description**

<b>Source Name:</b>	<b>Novozymes Biologicals, Inc. Dry Agricultural Products</b>
<b>Source Location:</b>	<b>South State Road 9, Merriam, Indiana 46701</b>
<b>Mailing Address:</b>	<b>3434 South 400 East, Albion, Indiana 46701</b>
<b>County:</b>	<b>Noble</b>
<b>SIC Code:</b>	<b>2875</b>
<b>Operation Permit No.:</b>	<b>M113-25244-00088</b>
<b>Permit Reviewer:</b>	<b>Sandra Carr</b>

The Office of Air Quality (OAQ) has reviewed an application from Novozymes Biologicals, Inc. Dry Agricultural Products relating to the construction and operation of a dry agricultural products blending operation.

**History**

On August 27, 2004, Novozymes Biologicals, Inc. was issued a Minor Source Operating Permit (113-18468-00081) for a facility at 3434 South 400 East, Albion, Indiana 46701. That facility is currently operational. Plans have been completed for a new, larger facility to be located at South State Road 9, Merriam, Indiana 46701. In stages, the equipment will be moved from the old location in Albion to the new facility in Merriam. At the new Merriam facility, two new processing lines will be installed in addition to the two process lines which are being relocated from Albion. For a short period of time, both facilities may be operating concurrently. The Albion facility is scheduled to permanently cease operations in the summer of 2008. Partial operation of the Merriam facility, under permit No.:113-25244-00088, is scheduled to begin in the spring of 2008 with full operational status expected by summer. The Merriam facility will operate under the name Novozymes Biologicals, Inc. Dry Agricultural Products.

This permit application from Novozymes Biologicals, Inc. Dry Agricultural Products is being reviewed as a New Source Review.

**Permitted Emission Units and Pollution Control Equipment**

This source consists of no previously permitted emission units and pollution control devices.

**New Emission Units and Pollution Control Equipment**

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

Raw Materials Receiving Area

- (a) One (1) raw material receiving system with a maximum design capacity of sixty (60) tons per hour including:
  - (i) One (1) raw material receiving pit, approved for construction in 2007, identified as P1A, with emissions controlled by cyclone C1 and exhausted through Stack S1,

- (ii) One (1) enclosed raw material auger, approved for construction in 2007, identified as P1C, and feeding into Dryer 1 (P2A)
- (iii) One (1) three (3) MMBtu/hr natural gas fired raw material dryer, approved for construction in 2007, identified as P2A, with a maximum design product throughput of four (4) tons per hour, with emissions controlled by cyclone C1 and exhausted through Stack S1.

#### Granular Products Line

- (b) One (1) fifteen (15) MMBtu/hr natural gas fired batch product pellet dryer, approved for construction in 2007, identified as P6A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.
- (c) One (1) enclosed batch pellet cooler, approved for construction in 2007, identified as P6B, with a maximum design throughput of nine (9) tons per hour, with emissions controlled by baghouse C2 and exhausted through Stack S2.
- (d) One (1) bulk storage bin area, approved for construction in 2007, identified as P3A-P3D, with a maximum design raw material throughput of sixty (60) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (e) One (1) batch hopper area, approved for construction in 2007, identified as P4A, P4B & P4G, with a maximum design raw material throughput of thirteen (13) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (f) One (1) enclosed batch rotary screen and clump breaker, approved for construction in 2007, identified as P4E & P4F, with a maximum design raw material throughput of twelve (12) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (g) Two (2) batch blenders, approved for construction in 2007, identified as P4H & P4I, with a maximum design product throughput of ten (10) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (h) One (1) blend hopper area with a maximum design product throughput of nine (9) tons per hour, identified as P5B, approved for construction in 2007, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (i) Two (2) enclosed batch pelletizers, approved for construction in 2007, identified as P5C & P5D, with a maximum design product throughput of eighteen (18) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (j) One (1) batch pellet screen, approved for construction in 2007, identified as P5F, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (k) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7A, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

- (l) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7C, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (m) One (1) enclosed two deck pellet screen, approved for construction in 2007, identified as P7D, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (n) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7I, with a maximum design raw material throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (o) One (1) enclosed four deck pellet screen, approved for construction in 2007, identified as P7J, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (p) Two (2) batch pellet crumblers, approved for construction in 2007, identified as P7K, with a maximum design product throughput of nine (9) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (q) One (1) enclosed batch bucket elevator, approved for construction in 2007, identified as P7L, with a maximum design raw material throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (r) One (1) rotary screen, approved for construction in 2007, identified as P7M, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (s) One (1) batch weigh hopper, approved for construction in 2007, identified as P8A, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (t) One (1) batch bag filler, approved for construction in 2007, identified as P8B, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.
- (u) One (1) batch bag closer/sewer, approved for construction in 2007, identified as P8D, with a maximum design product throughput of six (6) tons per hour, with emissions controlled by baghouse C3 and exhausted through Stack S3.

#### Dry Blend/Gel Products Line

- (v) One (1) batch blender, approved for construction in 2007, identified as P9A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.
- (w) One (1) batch weigh hopper/Packaging machine, approved for construction in 2007, identified as P10B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C4 and exhausted through Stack S4.

#### Dry Blend/Insoluble Products Line

- (x) One (1) batch blender, approved for construction in 2007, identified as P11A, with a maximum design product throughput of three (3) tons per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.

- (y) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P12B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C5 and exhausted through Stack S5.

#### Dry Blend/Soluble Products Line

- (z) One (1) batch blender, approved for construction in 2007, identified as P13A, with a maximum design product throughput of two (2) tons per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (aa) One (1) Packaging machine/bag filler, approved for construction in 2007, identified as P14B, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.
- (bb) One (1) Packaging machine/bucket filler, approved for construction in 2007, identified as P14C, with a maximum design product throughput of one-half (0.5) ton per hour, with emissions controlled by baghouse C6 and exhausted through Stack S6.

#### **Insignificant Activities**

- (cc) Nine (9) less than 0.25 MMBtu/hr propane or liquefied petroleum gas-fired space heaters, identified as P15-P19.
- (dd) Combustion source flame safety purging on startup.
- (ee) Repair or replacement of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (ff) Heat exchanger cleaning and repair.
- (gg) Process vessel degassing and cleaning to prepare for internal repairs.
- (hh) Paved and unpaved roads and parking lots with public access.
- (ii) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (jj) Purge double block and bleed valves.

#### **Existing Approvals**

There are no existing permits for this source; therefore this permit application from Novozymes Biologicals, Inc. Dry Agricultural Products is being reviewed as a New Source Review.

#### **Enforcement Issue**

There are no enforcement actions pending.

#### **Recommendation**

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

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

A complete application for the purposes of this review was received on September 5, 2007.

### Emission Calculations

The OAQ has verified the calculations submitted by the applicant and determined them to be accurate. See Appendix A of this document for detailed emission calculations ( Appendix A, pages 1 through 14).

### Potential to Emit of the Source Before Controls

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

Pollutant	Potential to Emit (tons/yr)
PM	184.44
PM-10	79.98
SO <sub>2</sub>	Negligible
VOC	0.16
CO	2.34
NO <sub>x</sub>	3.42

HAPs	Potential to Emit (tons/yr)
Single HAP	Less than 10
Total HAPs	Less than 25

\*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

- (a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM10 is greater than 25 tons per year and less than 100 tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of all other regulated pollutants are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1 and 326 IAC 2-5.1-3. A New Source Review and MSOP will be issued.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of the combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not a major source of HAPs as defined in 326 IAC 2-7-1 (22).

### County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx are considered when evaluating the rule applicability relating to ozone. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (b) Noble County has been classified as unclassifiable or attainment for PM2.5. 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 PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) Noble County has been classified as attainment or unclassifiable in Indiana for all criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

New Source PSD 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	24.46*
PM-10	18.70*
SO <sub>2</sub>	Negligible
VOC	0.16
CO	2.34
NO <sub>x</sub>	3.42
Single HAP	Less than 10
Combination HAPs	Less than 25

\* PM/PM10 are based on PTE after controls.

- (a) This new source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year, and it is not in one of the 28 listed source categories.
- (b) These emissions are based on MSOP application submitted by the source.

### Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

This is the first air approval issued to this source.

### Federal Rule Applicability

#### 40 CFR Subpart 60.300, Subpart DD - Standards of Performance for Grain Elevators

The New Source Performance Standard, 326 IAC 12, 40 CFR Part 60, Subpart DD (Standards of Performance for Grain Elevators) are not included in this permit because the dry agricultural products blending operation does not have any grain storage elevators or grain terminal elevators as defined in 60.301(c) and (d).

#### 40 CFR Subpart 60.200, Subpart T - Standards of Performance for Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants:

The New Source Performance Standard, 326 IAC 12, 40 CFR Part 60, Subpart T (Standards of Performance for Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants) are not included in this permit because the dry agricultural products blending operation is not a wet-process phosphoric acid plant as defined in 60.201(a).

40 CFR Subpart 60.210, Subpart U - Standards of Performance for Phosphate Fertilizer Industry: Superphosphoric Acid Plants:

The New Source Performance Standard, 326 IAC 12, 40 CFR Part 60, Subpart U (Standards of Performance for Phosphate Fertilizer Industry: Superphosphoric Acid Plants) are not included in this permit because the dry agricultural products blending operation is not a superphosphoric acid plant as defined in 60.211(a).

40 CFR Subpart 60.220, Subpart V - Standards of Performance for Phosphate Fertilizer Industry: Diammonium Phosphate Plants:

The New Source Performance Standard, 326 IAC 12, 40 CFR Part 60, Subpart V (Standards of Performance for Phosphate Fertilizer Industry: Diammonium Phosphate Plants) are not included in this permit because the source is not a granular diammonium phosphate plant as defined in 60.221(a).

40 CFR Subpart 60.230, Subpart W - Standards of Performance for Phosphate Fertilizer Industry: Triple Superphosphate Plants:

The New Source Performance Standard, 326 IAC 12, 40 CFR Part 60, Subpart V (Standards of Performance for Phosphate Fertilizer Industry: Triple Superphosphate Plants) are not included in this permit because the source is not a Triple Superphosphate plant as defined in 60.231(a).

40 CFR Subpart 63.600, Subpart AA – National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants:

The National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, 40 CFR Part 63, Subpart AA (National Emission Standards for Hazardous Air Pollutants from Phosphoric Acid Manufacturing Plants) are not included in this permit because the source is not a phosphoric acid manufacturing plant as defined in 63.600.

40 CFR Subpart 63.620, Subpart BB – National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizer Production Plants:

The National Emission Standards for Hazardous Air Pollutants, 326 IAC 20, 40 CFR Part 63, Subpart BB (National Emission Standards for Hazardous Air Pollutants from Phosphate Fertilizer Production Plants) are not included in this permit because the source is not a phosphate fertilizer production plants as defined in 63.620.

**State Rule Applicability – Entire Source**

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

This source is not subject to this rule because potential uncontrolled emissions of all criteria pollutants are less than 250 tons per year. This source is also not one of the 28 listed source categories. Therefore, this source is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)).

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

The processes of this source will emit less than 10 tons per year of a single HAP and less than 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, and it

does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

**326 IAC 5-1 (Opacity Limitations)**

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

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

**326 IAC 6-4 (Fugitive Dust Emissions)**

Pursuant to 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). 326 IAC 6-4-2(4) is not federally enforceable.

**326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)**

This rule applies because the source was built after December 13, 1985. Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), the fugitive particulate matter emissions from this source shall be controlled according to the plan submitted by Novozymes Biologicals, Inc. Dry Agricultural Products on September 5, 2007.

Pursuant to the plan submitted by Novozymes Biologicals, Inc. Dry Agricultural Products and included as Attachment A of the permit, all fugitive particulate matter (PM) emissions resulting from:

- (a) The paved roads and parking lots shall be controlled by vacuum sweeping on an as needed basis.
- (b) The unpaved roads and parking lots shall be controlled by treating the surfaces with a suitable and effective oil or chemical dust suppressant that is approved by the Commissioner, and/or by spraying the surfaces with water. The suppressant used shall be applied on an as needed basis.
- (c) The material conveyors and bucket elevators shall be controlled by totally enclosing each conveyor on the top and sides.
- (d) The transportation of material by truck, front end loaders, or similar vehicles shall be controlled by completely enclosing and/or tarping the applicable vehicles, minimizing the vehicular distance between the transfer points, and maintaining each vehicle body in such a condition that prevents any leaks of material.
- (e) The Raw Materials Receiving Area shall be controlled by partially enclosing the overall unloading area, collecting the emissions from the receiving pit, and exhausting all collected emissions to cyclone C1.
- (f) The storage bins and hoppers, crushers, grinders, screening and mixing units, dryers, and final screen/bagging process shall be controlled by enclosing each emission unit,

minimizing the free fall distance between points, and exhausting all emissions collected to cyclone, C1, or baghouses, C2 - C6.

- (g) The hauling and dumping of solid waste (as defined in IC 13-7-1-2(10)) shall be controlled by minimizing the free fall distance from the baghouse and/or process equipment when loading or unloading the collected material and enclosing or covering the material when hauling.
- (h) The building openings other than Stacks S1 - S6, shall be controlled by implementing an in-house operating and procedure maintenance program including the maintenance and operating protocol of cyclone, C1, and baghouses, C2 - C6 as specified in Conditions D.1.2, D.1.3, D.1.4, and D.1.5, and operating and maintaining the process equipment such that visible emissions are minimized.

For the purpose of this Condition, "as needed basis" is defined as the frequency of application necessary to minimize visible particulate matter (PM) emissions.

The fugitive control plan described in this Condition shall commence the date operation of the source commences. Records shall be kept and maintained which document all control measures and activities to be implemented in accordance with the approved control plan. Said records shall be available upon request of the Commissioner and shall be retained for three (3) years.

**State Rule Applicability – Individual Facilities**

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

Process	Process ID	Control ID	PWR (tons/hr)	Allowable Limit (lb/hr)
<b>Raw Materials Receiving</b>				
Receiving pit	P1A	C1	60*	46.29*
Raw material auger	P1C	C1	4	10.38
Raw material dryer 1	P2	C1	4	10.38
<b>Granular Products Line</b>				
Pellet dryer 2	P6A	C2	9	17.87
Pellet cooler	P6B	C2	9	17.87
Bulk Storage Bin Area	P3A - P3D	C3	60*	46.29*
Loading majors hopper	P4A	C3	10	19.18
Loading minors hopper	P4B	C3	2	6.52
Loading minors adds hopper	P4G	C3	1	4.10
Rotary screen	P4E	C3	12	21.67
Rotary screen/clump breaker	P4F	C3	12	21.67
Blender 1	P4H	C3	10	19.18
Blender 2	P4I	C3	10	19.18
Load blend hopper	P5B	C3	9	17.87
Screen	P5F	C3	9	17.87

Process	Process ID	Control ID	PWR (tons/hr)	Allowable Limit (lb/hr)
Pellet crumbler	P7A	C3	9	17.87
Screen	P7D	C3	9	17.87
Screen	P7J	C3	9	17.87
Crumbler	P7K	C3	9	17.87
Screen	P7M	C3	6	13.62
Loading weigh hopper	P8A	C3	6	13.62
Bag filler	P8B	C3	6	13.62
Dry Blend/Gel Products Line				
Blender	P9A	C4	3	8.56
Weighing/package hopper	P10A	C4	3	8.56
Dry Blend/Insoluble Products Line				
Blender	P11A	C5	3	8.56
Loading/package hopper	P12A	C5	3	8.56
Bag filler	P12B	C5	0.25	1.62
Dry Blend/Soluble Products Line				
Blender	P13A	C6	2	6.52
Loading/package hopper	P14A	C6	2	6.52
Bag filler	P14B	C6	0.25	1.62
Bucket filler	P14C	C6	0.25	1.62

\* = PWR is in excess of 60,000 lb/hr.

The particulate matter (PM) emissions from each process, excluding the fugitive emissions from the unpaved roads, for the process weight rate (PWR) shown in the above table, shall be less than the allowable limit shown in the table.

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

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

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

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

$$E = 55 P^{0.11} - 40$$

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

### Natural Gas Combustion

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

The natural gas-fired process heaters (P2A & P6A) are each not subject to 326 IAC 6-2 as they are not sources of indirect heating.

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

Each of the propane or liquefied petroleum gas-fired space heaters, (P15-P19) are each not subject to the requirements of 326 IAC 6-3, since they each are not a "manufacturing process" as defined by 326 IAC 6-3-1.5.

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

Each of the natural gas-fired process heaters (P2A & P6A) are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

### **Compliance Requirements**

Permits issued under 326 IAC 2-6 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-6.1-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

- (a) The compliance monitoring requirements applicable to the cyclone, C1, and baghouses identified as C2 through C6 are as follows:
- (1) Daily visible emission notations of the dry agricultural products blending operations stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
  - (2) 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.
  - (3) 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.
  - (4) 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.

- (5) 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.
- (6) The Permittee shall record the pressure drop across the cyclone, C1, and each of the baghouses, C2 - C6, used in conjunction with the dry agricultural products blending operation, at least once daily when the manufacturing process is in operation when venting to the atmosphere. When for any one reading, the pressure drop is outside the normal range of 3.0 and 8.0 inches of water or a range established by the device manufacturer, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

- (b) In the event that bag failure has been observed:
  - (1) 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).
  - (2) For a single compartment baghouse controlling emissions from the dry agricultural products blending operation, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. 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) In the event that cyclone failure has been observed:
  - (1) Failed units and the associated process will be shut down immediately until the failed units have 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).

These monitoring conditions are necessary because the baghouses for the manufacturing process must operate properly to ensure compliance with 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations) and 326 IAC 2-6.1 (MSOP).

## **Conclusion**

The construction and operation of this dry agricultural products blending operation shall be subject to the conditions of the New Source Construction and Minor Source Operating Permit 113-25244-00088.

## Cover sheet for

Appendix A: Emissions Calculations

Company Name: Novozymes Biologicals, Inc. Dry Agricultural Products

Company Address: South State Road 9, Merriam, IN 46701

Permit ID: 113-25244-00088

Prepared By: Sandra Carr

Calculations By: Environmental Quality Management, Inc./ Jeff Slayback

Date: 11/20/2007

Total Pages: 14

**The OAQ has verified the calculations submitted by the applicant and determined them to be accurate.**

**Table 1. Summary of Potential Pre-Control Emissions**

Source Description	Potential (Pre-Control) Emissions, tons/yr					
	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Processes P1 through P14	172.15	75.90				
Dryer 1 - P2A (fuel combustion)	0.10	0.10	0.008	1.32	1.10	0.07
Dryer 2 - P6A (fuel combustion)	0.10	0.10	0.008	1.32	1.10	0.07
Roads and parking areas F1	13.06	3.86				
HVAC and space heaters	0.025	0.025	0.0007	0.79	0.13	0.012
<b>TOTAL PLANTWIDE EMISSIONS</b>	<b>185.44</b>	<b>79.98</b>	<b>0.02</b>	<b>3.42</b>	<b>2.34</b>	<b>0.16</b>

**Table 2. Summary of Potential After-Control Emissions**

Source Description	Potential (After-Control) Emissions, tons/yr					
	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Granular Product Line (Processes P1 - P8)	15.36	14.20				
Water Gel Product Line (Processes P9 thru P10)	0.75	0.75				
Dry Blen Product Line (Processes P11 thru P12)	0.66	0.66				
Water Soluble Product Line (Processes P13 thru P14)	0.94	0.94				
Dryer 1 - P2A (fuel combustion)	0.10	0.10	0.008	1.32	1.10	0.072
Dryer 2 - P6A (fuel combustion)	0.10	0.10	0.008	1.32	1.10	0.072
Roads and parking areas F1	6.53	1.93				
HVAC and space heaters	0.025	0.025	0.0007	0.79	0.13	0.012
<b>TOTAL PLANTWIDE EMISSIONS</b>	<b>24.47</b>	<b>18.70</b>	<b>0.02</b>	<b>3.42</b>	<b>2.34</b>	<b>0.16</b>

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL (PRE-CONTROL) EMISSION CALCULATIONS - PROCESS OPERATIONS P1 - P14***

**Emission Unit:** Processes P1 through P14

**Source description:** Potential pre-control (PTE) particulate emissions from various pieces of equipment in each process operation P1 through P14.  
Note: PTE for PM/PM10 is calculated in a manner consistent with the assumptions and procedures described in the IDEM Technical Support Document attached to MSOP 113-13651-00003 issued 3-21-01. Emission factors from EPA AP-42, Section 9.9.1 Grain Elevators and Processes were used given the similarities in the operations and materials in that section to those processed by the new plant. PTE is based on uncontrolled emissions. Sources that are enclosed (auger conveyors, bucket elevators, pelletizers) would not contribute to PTE/uncontrolled emissions unless aspirated as part of a baghouse system.

**POTENTIAL EMISSION CALCULATIONS - calculated at 8,760 hrs/yr**

Source Description	Max PWR tons/hr	Potential Pre-Control Emissions					
		total PM			PM10		
		lb/ton	lbs/hr	tpy	lb/ton	lbs/hr	tpy
P1 - truck dump to unloading pit (P1A) (SCC 3-02-008-02)	60	0.017	1.02	4.47	0.0025	0.15	0.66
P1 - loading dryer feed hopper/scale (P1C) (SCC 3-02-005-30)	4	0.061	0.24	1.07	0.034	0.14	0.60
P2 - Dryer 1 (P2A) (SCC 3-02-007-09)	4	0.19	0.76	3.33	0.17	0.68	2.98
P3 - loading bins from conveyor (P3A-D) (SCC 3-02-005-30)	60	0.061	3.66	16.03	0.034	2.04	8.94
P4 - loading majors hoppers (P4A) (SCC 3-02-005-30)	10	0.061	0.61	2.67	0.034	0.34	1.49
P4 - loading minors hoppers (P4B) (SCC 3-02-005-30)	2	0.061	0.12	0.53	0.034	0.07	0.30
P4 - loading minor adds hoppers (P4G) (SCC 3-02-005-30)	1	0.061	0.06	0.27	0.034	0.03	0.15
P4 - screen/clumpbreaker (P4E and P4F) (SCC 3-02-005-37)	12	0.30	3.60	15.77	0.075	0.90	3.94
P4 - Blenders 1 and 2 (P4H and P4I) (SCC 3-02-005-30)	10	0.061	0.61	2.67	0.034	0.34	1.49
P5 - loading blend hopper (P5B) (SCC 3-02-005-30)	9	0.061	0.55	2.40	0.034	0.31	1.34
P5 - screen (P5F) (SCC 3-02-005-37)	9	0.30	2.70	11.83	0.075	0.68	2.96
P6 - Dryer 2 (P6A) (SCC 3-02-007-09)	9	0.19	1.7	7.49	0.17	1.53	6.70
P6 - Pellet cooler (P6B) (SCC 3-02-008-16)	9	1.44	13.0	56.76	0.72	6.48	28.38
P7 - crumbler (P7A) (SCC 3-02-008-19)	9	0.096	0.86	3.78	0.048	0.43	1.89
P7 - screen (P7D) (SCC 3-02-005-37)	9	0.30	2.70	11.83	0.075	0.68	2.96

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL (PRE-CONTROL) EMISSION CALCULATIONS - PROCESS OPERATIONS P1 - P14***

Source Description	Max PWR tons/hr	Potential Pre-Control Emissions					
		total PM			PM10		
		lb/ton	lbs/hr	tpy	lb/ton	lbs/hr	tpy
P7 - screen (P7J) (SCC 3-02-005-37)	9	0.30	2.70	11.83	0.075	0.68	2.96
P7 - crumbler (P7K) (SCC 3-02-008-19)	9	0.096	0.86	3.78	0.048	0.43	1.89
P7 - screen (P7M) (SCC 3-02-005-37)	6	0.30	1.80	7.88	0.075	0.45	1.97
P8 - loading weigh hopper (P8A) (SCC 3-02-005-30)	6	0.061	0.37	1.60	0.034	0.20	0.89
P8 - load bag filler/load bags (P8B) (SCC 3-02-005-30)	6	0.061	0.37	1.60	0.034	0.20	0.89
P9 - blender (P9A) (SCC 3-02-005-30)	3	0.061	0.18	0.80	0.034	0.10	0.45
P10 - loading pkg hopper (P10A) (SCC 3-02-005-30)	3	0.061	0.18	0.80	0.034	0.10	0.45
P10 - fill bags (P10B) (SCC 3-02-005-30)	0.25	0.061	0.02	0.07	0.034	0.01	0.04
P11 - blender (P11A) (SCC 3-02-005-30)	3	0.061	0.18	0.80	0.034	0.10	0.45
P12 - loading pkg hopper (P12A) (SCC 3-02-005-30)	3	0.061	0.18	0.80	0.034	0.10	0.45
P12 - fill bags (P12B) (SCC 3-02-005-30)	0.25	0.061	0.02	0.07	0.034	0.01	0.04
P13 - blender (P13A) (SCC 3-02-005-30)	2	0.061	0.12	0.53	0.034	0.07	0.30
P14 - loading pkg hopper (P14A) (SCC 3-02-005-30)	2	0.061	0.12	0.53	0.034	0.07	0.30
P14 - fill bags (P14B) (SCC 3-02-005-30)	0.25	0.061	0.02	0.07	0.034	0.01	0.04
P14 - fill buckets (P14C) (SCC 3-02-005-30)	0.25	0.061	0.02	0.07	0.034	0.01	0.04
<b>Total Process Pre-Control Particulate Emissions</b>			<b>39.30</b>	<b>172.15</b>			<b>75.90</b>

Note: Pre-Control emissions for the pellet cooler, screens, and crumblers were derived from AP-42 Section 9.9.1 tables and end-notes, and assumed a nominal cyclone efficiency of 75 percent when converting after control values to uncontrolled emission values.

NOTE: Blenders are the process rate limiting step in each product line.

**NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT**  
**POTENTIAL (PRE-CONTROL) EMISSION CALCULATIONS - PROCESS OPERATIONS P4 - P8**

**Emission Unit:** Processes P4 through P8

**Source description:** Potential pre-control (PTE) manganese emissions from various pieces of equipment in the Granular Process Line, P4 through P8.

0.14 percent manganese specification for granular product

**POTENTIAL EMISSION CALCULATIONS - calculated at 8,760 hrs/yr**

Source Description	Max PWR tons/hr	Potential Pre-Control Emissions					
		total PM			manganese		
		lb/ton	lbs/hr	tpy	lb/ton	lbs/hr	tpy
P4 - loading minor adds hoppers (P4G) (SCC 3-02-005-30)	1	0.061	0.06	0.27	8.5E-05	8.5E-05	3.7E-04
P4 - screen/clumpbreaker (P4E and P4F) (SCC 3-02-005-37)	12	0.30	3.60	15.77	4.2E-04	5.0E-03	2.2E-02
P4 - Blenders 1 and 2 (P4H and P4I) (SCC 3-02-005-30)	10	0.061	0.61	2.67	8.5E-05	8.5E-04	3.7E-03
P5 - loading blend hopper (P5B) (SCC 3-02-005-30)	9	0.061	0.55	2.40	8.5E-05	7.7E-04	3.4E-03
P5 - screen (P5F) (SCC 3-02-005-37)	9	0.30	2.70	11.83	4.2E-04	3.8E-03	1.7E-02
P6 - Dryer 2 (P6A) (SCC 3-02-007-09)	9	0.19	1.7	7.49	2.7E-04	2.4E-03	1.0E-02
P6 - Pellet cooler (P6B) (SCC 3-02-008-16)	9	1.44	13.0	56.76	2.0E-03	1.8E-02	7.9E-02
P7 - crumbler (P7A) (SCC 3-02-008-19)	9	0.096	0.86	3.78	1.3E-04	1.2E-03	5.3E-03
P7 - screen (P7D) (SCC 3-02-005-37)	9	0.30	2.70	11.83	4.2E-04	3.8E-03	1.7E-02
P7 - screen (P7J) (SCC 3-02-005-37)	9	0.30	2.70	11.83	4.2E-04	3.8E-03	1.7E-02
P7 - crumbler (P7K) (SCC 3-02-008-19)	9	0.096	0.86	3.78	1.3E-04	1.2E-03	5.3E-03
P7 - screen (P7M) (SCC 3-02-005-37)	6	0.30	1.80	7.88	4.2E-04	2.5E-03	1.1E-02
P8 - loading weigh hopper (P8A) (SCC 3-02-005-30)	6	0.061	0.37	1.60	8.5E-05	5.1E-04	2.2E-03
P8 - load bag filler/load bags (P8B) (SCC 3-02-005-30)	6	0.061	0.37	1.60	8.5E-05	5.1E-04	2.2E-03
<b>Total Process Pre-Control Emissions</b>				<b>139.50</b>			<b>0.195</b>

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
 POTENTIAL (AFTER CONTROL) EMISSION CALCULATIONS - CYCLONE FOR PROCESSES P1 AND P2***

**Emission Unit:** Processes P1 and P2

**Source description:** Potential after-control particulate emissions from operation of a nominally efficient cyclone serving various pieces of equipment within Processes P1 and P2.

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*PM/PM10 emissions calculated based on the uncontrolled PM and PM10 emission rates for P1 and P2, and a conservative estimate of 75 percent control efficiency for the cyclone.*

<i>Pollutant</i>		<i>value</i>	<i>units</i>	<i>Reference</i>
Cyclone efficiency		75	percent	worst-case assumption
Process P1 - uncontrolled	PM	1.26	lbs/hr	calculated value
	PM10	0.29	lbs/hr	calculated value
Process P2 - uncontrolled	PM	0.76	lbs/hr	calculated value
	PM10	0.68	lbs/hr	calculated value

**POTENTIAL EMISSION CALCULATIONS - *calculated at 8,760 hrs/yr***

<b>Pollutant</b>	<b>Potential After Control Emissions</b>	
	<b>lbs/hr</b>	<b>tpy</b>
Process P1 - PM	0.32	1.38
Process P1 - PM10	0.07	0.31
Process P2 - PM	0.19	0.83
Process P2 - PM10	0.17	0.74

NOTE: Cyclone, C1, is part of the Granular Product line.

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL (AFTER CONTROL) EMISSION CALCULATIONS - FABRIC FILTER/BAGHOUSES FOR PROCESSES P3 - P14***

**Emission Unit:** Processes P3, P4, P5, P6, P7, P8, P9, P10, P11, P12, P13, and P14

**Source description:** Potential after-control particulate emissions from operation of five fabric filter/baghouses serving various pieces of equipment within each defined process.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Baghouse 2 (C2) - P6	30,000	cfm	equipment design specification
Baghouse 3 (C3) - P3, P4, P5, P7, and P8	40,000	cfm	equipment design specification
Baghouse 4 (C4) - P9 and P10	4,000	cfm	equipment design specification
Baghouse 5 (C5) - P11 and P12	3,500	cfm	equipment design specification
Baghouse 6 (C6) - P13 and P14	5,000	cfm	equipment design specification

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*PM/PM10 emissions calculated based on the design grain loading specification for baghouse equipment.*

<i>Pollutant</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Baghouse outlet particulate concentration	0.005	gr/dscf	equipment design specification

**POTENTIAL EMISSION CALCULATIONS - *calculated at 8,760 hrs/yr***

<b>Pollutant</b>	<b>Potential After-Control Emissions</b>	
	<b>lbs/hr</b>	<b>tpy</b>
Baghouse 2 (C2) - PM/PM <sub>10</sub>	1.29	5.63
Baghouse 3 (C3) - PM/PM <sub>10</sub>	1.71	7.51
Baghouse 4 (C4) - PM/PM <sub>10</sub>	0.17	0.75
Baghouse 5 (C5) - PM/PM <sub>10</sub>	0.15	0.66
Baghouse 6 (C6) - PM/PM <sub>10</sub>	0.21	0.94
Total process particulate emissions from C2-C6	3.54	15.49

NOTE: Baghouses C2 & C3 are part of the Granular Product Line. Baghouse C4 is part of the Water Gel Products Line. Baghouse C5 is part of the Dry Blend Product Line. Baghouse C6 is part of the Water Soluble Product Line.

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL (AFTER CONTROL) EMISSION CALCULATIONS - FABRIC FILTER/BAGHOUSES FOR PROCESSES P4 - P8***

**Emission Unit:** Processes P4, P5, P6, P7, and P8

**Source description:** Potential after-control manganese emissions from operation of two fabric filter/baghouses serving various pieces of equipment within each defined process.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Baghouse 2 (C2) - P6	30,000	cfm	equipment design specification
Baghouse 3 (C3) - P4, P5, P7, and P8	40,000	cfm	equipment design specification

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*PM/PM10 emissions calculated based on the design grain loading specification for baghouse equipment.*

<i>Pollutant</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Baghouse outlet particulate concentration	0.005	gr/dscf	equipment design specification
Worse case manganese content	0.14	percent	manganese specification for granular product

**POTENTIAL EMISSION CALCULATIONS - *calculated at 8,760 hrs/yr***

<b>Pollutant</b>	<b>Potential After Control Emissions</b>	
	<b>lbs/hr</b>	<b>tpy</b>
Baghouse 2 (C2) - manganese	1.8E-03	7.88E-03
Baghouse 3 (C3) - manganese	2.4E-03	1.05E-02
Total process Mn emissions from C2-C3	4.2E-03	1.84E-02

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL EMISSION CALCULATIONS - P2 DRYER 1 (P2A)***

**Emission Unit:** Dryer 1 - P2A

**Source description:** Potential emissions from natural gas combustion in Dryer 1.  
Note: Process-related particulate emissions from this source are calculated on another spreadsheet.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Dryer max heat input capacity	3.0	MMBtu/hr	equipment design specification
Natural gas heat content	1,000	Btu/ft <sup>3</sup>	nominal industry standard
Natural gas consumption rate(s)	3,000	scfh	calculated value
	26.3	10 <sup>6</sup> ft <sup>3</sup> /yr	calculated at 8,760 hrs/yr

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*Emissions due to natural gas combustion are based on EPA AP-42, Section 1.4 (7/98) emission factors.*

<i>Pollutant - natural gas</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	7.6	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2
SO <sub>2</sub>	0.6	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2
NO <sub>x</sub>	100	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-1
CO	84	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-1
NMHC (VOC)	5.5	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2

**POTENTIAL EMISSION CALCULATIONS - calculated at 8,760 hrs/yr burning natural gas**

<b>Pollutant</b>	<b>Potential Emissions</b>	
	<b>lb/hr</b>	<b>tpy</b>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	0.023	0.10
SO <sub>2</sub>	0.002	0.008
NO <sub>x</sub>	0.30	1.32
CO	0.252	1.10
NMHC (VOC)	0.017	0.07

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL EMISSION CALCULATIONS - P6 DRYER 2 (P6A)***

**Emission Unit:** Dryer 2 - P6A

**Source description:** Potential emissions from natural gas combustion in Dryer 2.  
Note: Process-related particulate emissions from this source are calculated on another spreadsheet.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Dryer max heat input capacity	3.0	MMBtu/hr	equipment design specification
Natural gas heat content	1,000	Btu/ft <sup>3</sup>	nominal industry standard
Natural gas consumption rate(s)	3,000	scfh	calculated value
	26.3	10 <sup>6</sup> ft <sup>3</sup> /yr	calculated at 8,760 hrs/yr

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*Emissions due to natural gas combustion are based on EPA AP-42, Section 1.4 (7/98) emission factors.*

<i>Pollutant - natural gas</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	7.6	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2
SO <sub>2</sub>	0.6	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2
NO <sub>x</sub>	100	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-1
CO	84	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-1
NMHC (VOC)	5.5	lbs/10 <sup>6</sup> ft <sup>3</sup> gas	Section 1.4, Table 1.4-2

**POTENTIAL EMISSION CALCULATIONS - calculated at 8,760 hrs/yr burning natural gas**

<b>Pollutant</b>	<b>Potential Emissions</b>	
	<b>lb/hr</b>	<b>tpy</b>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	0.023	0.10
SO <sub>2</sub>	0.002	0.008
NO <sub>x</sub>	0.30	1.32
CO	0.252	1.10
NMHC (VOC)	0.017	0.07

***NOVOZYMES BIOLOGICALS, INC. DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL EMISSION CALCULATIONS - INSIGNIFICANT SOURCES (P15-P19)***

**Emission Unit:** HVAC and building space heaters

**Source description:** Potential emissions from LPG (propane) combustion.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
Total heat input capacity - all units	0.865	MMBtu/hr	equipment design specification
Propane heat content	91,500	Btu/gal	nominal industry standard
Propane consumption rate(s)	9	gph	calculated value
	82.9	10 <sup>3</sup> gal/yr	calculated at 8,760 hrs/yr

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*Emissions due to LPG combustion are based on EPA AP-42, Section 1.5 (10/96) emission factors.*

<i>Pollutant - LPG</i>	<i>value</i>	<i>units</i>	<i>Reference</i>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	0.6	lbs/10 <sup>3</sup> gal LPG	Section 1.5, Table 1.5-1
SO <sub>2</sub>	0.018	lbs/10 <sup>3</sup> gal LPG	Section 1.5, Table 1.5-1
NO <sub>x</sub>	19	lbs/10 <sup>3</sup> gal LPG	Section 1.5, Table 1.5-1
CO	3.2	lbs/10 <sup>3</sup> gal LPG	Section 1.5, Table 1.5-1
NMHC (VOC)	0.3	lbs/10 <sup>3</sup> gal LPG	Section 1.5, Table 1.5-1

**POTENTIAL EMISSION CALCULATIONS - calculated at 8,760 hrs/yr burning LPG**

<b>Pollutant</b>	<b>Potential Emissions</b>	
	<b>lb/hr</b>	<b>tpy</b>
PM/PM <sub>10</sub> (incl. filterable and condensable PM)	0.0057	0.025
SO <sub>2</sub>	1.7E-04	7.5E-04
NO <sub>x</sub>	0.18	0.79
CO	0.03	0.13
NMHC (VOC)	0.003	0.012

***NOVOZYMES BIOLOGICALS, INC. - DRY AGRICULTURAL PRODUCTS PLANT  
POTENTIAL EMISSION CALCULATIONS - VEHICULAR TRAFFIC ON PLANT ROADS (F1)***

**Emission Unit:**            **Vehicular Traffic on Unpaved Plant Roads and Parking Areas - F1**

**Source description:**      Fugitive dust emissions due to passenger and truck traffic on plant roads. Truck VMT based on maximum plant operating capacity and assuming all incoming material and all finished product is transported by OTR truck. Passenger vehicle VMT based on a maximum of 25 employees and visitors per day.

**OPERATION/PRODUCTION RELATED INFORMATION**

<i>Parameter</i>		<i>value</i>	<i>units</i>	<i>Reference</i>
Delivery truck tare weight	empty	10	tons	nominal industry standard
Maximum full truck weight	full	30	tons	avg OTR truck weight (60,000 lbs)
Average truck weight	-	20.0	tons	based on round trip (in/out) on plant roads
Avg auto/light-duty truck vehicle wt	-	3.0	tons	nominal industry standard
Maximum one-way truck trip distance		0.20	mile	plant design - specification basis
Maximum round trip truck trip distance		0.40	mile	
Maximum one-way vehicle trip distance		0.10	mile	plant design - specification basis
Maximum round trip vehicle trip distance		0.20	mile	
Maximum outgoing material		7.0	tons/hr	spec basis for Process 8, 10, 12, and 14
		61,320	tons/yr	calculated at 8,760 hrs/yr
Maximum incoming material		10.5	tons/hr	equiv to outgoing plus 50 pct. safety
		91,980	tons/yr	calculated at 8,760 hrs/yr
Number of OTR transport trucks		7,665	trucks/yr	calculated value (at 20.0 ton/truck load)
Maximum number of passenger vehicles on site		25	vehicles/day	
		9,125	vehicles/yr	

**NOVOZYMES BIOLOGICALS, INC. - DRY AGRICULTURAL PRODUCTS PLANT**  
**POTENTIAL EMISSION CALCULATIONS - VEHICULAR TRAFFIC ON PLANT ROADS (F1)**

**EMISSION RELATED INFORMATION AND CALCULATION METHODOLOGY**

*Uncontrolled PM/PM10 emissions calculated using Equations 1a and 2 from EPA AP-42, Section 13.2.2 Unpaved Roads.*

$$E = [k \times (s/12)^a \times (W/3)^b] \times [(365 - P)/365]$$

<i>Parameter</i>		<i>value</i>	<i>units</i>	<i>Reference</i>
k = particle size multiplier	PM	4.9	lb/VMT	AP-42 Section 13.2.2, Table 13.2.2-2
	PM10	1.5	lb/VMT	AP-42 Section 13.2.2, Table 13.2.2-2
s = silt loading (default baseline)		10	pct.	AP-42 Section 13.2.2, Table 13.2.2-1
W = average truck weight		20.0	tons	calculated value
W = average passenger vehicle weight		3.0	tons	
a exponent value	PM	0.7	-	AP-42 Section 13.2.2, Table 13.2.2-2
	PM10	0.9	-	AP-42 Section 13.2.2, Table 13.2.2-2
b exponent value	PM	0.45	-	AP-42 Section 13.2.2, Table 13.2.2-2
	PM10	0.45	-	AP-42 Section 13.2.2, Table 13.2.2-2
P = number of days with 0.01 inch precipitation		120	days	AP-42 Section 13.2.1, Figure 13.2.2-1
truck PM emission factor (uncontrolled)		6.80	lb/VMT	calculated value
truck PM10 emission factor (uncontrolled)		2.01	lb/VMT	calculated value
passenger vehicle PM emission factor (uncontrolled)		2.89	lb/VMT	calculated value
passenger vehicle PM10 emission factor (uncontrolled)		0.85	lb/VMT	calculated value

*Controlled PM/PM10 emissions calculated based on information provided provided in Ohio EPA RACM document for watering unpaved roads.*

n = PM/PM10 control efficiency		50	percent	Ohio EPA RACM, Table 2.1.1-3
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**NOVOZYMES BIOLOGICALS, INC. - DRY AGRICULTURAL PRODUCTS PLANT**  
**POTENTIAL EMISSION CALCULATIONS - VEHICULAR TRAFFIC ON PLANT ROADS (F1)**

**POTENTIAL EMISSION CALCULATIONS**

<b>Pollutant</b>	<b>Number per year</b>	<b>RT distance miles/trip</b>	<b>VMT miles/year</b>	<b>Potential emissions, tpy</b>	
				<b>PM</b>	<b>PM10</b>
<b>transport trucks</b>	7,665	0.40	3,066	5.21	1.54
<b>passenger vehicles</b>	9,125	0.20	1,825	1.32	0.39
<b>TOTALS</b>	16,790	-	4,891	6.53	1.93