



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: August 18, 2011

RE: Naturally Recycled Proteins of Indiana, LLC / 009-30510-00025

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

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, 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 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) 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.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

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.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

**New Source Construction and
Part 70 Operating Permit
OFFICE OF AIR QUALITY**

**Naturally Recycled Proteins of Indiana, LLC
6800 North 400 East
Montpelier, Indiana 47359**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions

Operation Permit No.: T009-30510-00025	
Issued by:  Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: August 19, 2011 Expiration Date: August 19, 2016

TABLE OF CONTENTS

A. SOURCE SUMMARY	4
A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]	
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]	
A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]	
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]	
B. GENERAL CONDITIONS	7
B.1 Definitions [326 IAC 2-7-1]	
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]	
B.4 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]	
B.5 Term of Conditions [326 IAC 2-1.1-9.5]	
B.6 Enforceability [326 IAC 2-7-7] [IC 13-17-12]	
B.7 Severability [326 IAC 2-7-5(5)]	
B.8 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]	
B.9 Duty to Provide Information [326 IAC 2-7-5(6)(E)]	
B.10 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]	
B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]	
B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (12)][326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]	
B.13 Emergency Provisions [326 IAC 2-7-16]	
B.14 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]	
B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]	
B.16 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]	
B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]	
B.18 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]	
B.19 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]	
B.20 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]	
B.21 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]	
B.22 Source Modification Requirement [326 IAC 2-7-10.5]	
B.23 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]	
B.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]	
B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]	
B.26 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]	
C. SOURCE OPERATION CONDITIONS	20
Emission Limitations and Standards [326 IAC 2-7-5(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]	
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 Stack Height [326 IAC 1-7]
- C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Testing Requirements [326 IAC 2-7-6(1)]

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

- C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]
- C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)]
[326 IAC 2-7-6(1)]

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

- C.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.13 Risk Management Plan [326 IAC 2-7-5(11)] [40 CFR 68]
- C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]
- C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5]
[326 IAC 2-7-6]

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

- C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)]
[326 IAC 2-6]
- C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]
- C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1. EMISSIONS UNIT OPERATION CONDITIONS..... 28

Emission Limitations and Standards [326 IAC 2-7-5(1)]

- D.1.1 Particulate [326 IAC 6-3-2]
- D.1.2 VOC BACT [326 IAC 8-1-6]
- D.1.3 Case-by-Case MACT [326 IAC 2-4.1]
- D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

Compliance Determination Requirements

- D.1.5 Testing Requirements [326 IAC 2-1.1-11]

Certification 30
Emergency Occurrence Report 31
Quarterly Deviation and Compliance Monitoring Report 33
Affidavit of Construction 35

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary high-protein pet food flavoring manufacturing facility.

Source Address:	6800 North 400 East, Montpelier, Indiana 47359
General Source Phone Number:	(515) 253-0943
SIC Code:	2047
County Location:	Blackford
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules Major Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

- (a) Two (2) solid raw material (corn gluten) hammermills, identified as EP3-1 and EP3-2, approved in 2011 for construction, each with a maximum capacity of 3.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.
- (b) Two (2) direct, natural gas fired product dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.
- (c) One (1) dried product hammermill, identified as EP3-3, approved in 2011 for construction, with a maximum capacity of 12.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

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

- (a) Truck receiving of solid raw materials (corn gluten), exhausting internally.
- (b) Thirteen (13) raw product liquid storage tanks for storage of stabilized poultry solubles, vented and exhausting internally.

- (c) Twelve (12) ingredient bins for storage of solid raw material (corn gluten), tote fed or bulk fed via conveyors, and exhausting internally.
- (d) Conveyance of solid materials (corn gluten), exhausting internally.
- (e) One (1) enclosed solids material mixer, exhausting internally.
- (f) Two (2) mixed material blenders, exhausting internally.
- (g) Twelve (12) storage bins for finished dried product, elevator/auger fed, and exhausting internally.
- (h) Finished product load-out, exhausting internally.
- (i) Unpaved roads for material receiving and product shipping. [326 IAC 6-4] [326 IAC 6-5]
- (j) Space heaters, process heaters, or boilers with natural gas-fired combustion with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
 - (1) One (1) Hi-Efficiency Furnace (Office), with a maximum heat input capacity of 0.135 MMBtu/hr.
 - (2) One (1) Water Heater (Office), with a maximum heat input capacity of 0.05 MMBtu/hr.
 - (3) One (1) Dryer Room Make-up Air Unit, with a maximum heat input capacity of 5.775 MMBtu/hr.
 - (4) Four (4) Tanker Bay Radiant Heaters, each with a maximum heat input capacity of 0.1 MMBtu/hr.
 - (5) Four (4) Tank Area Radiant Heaters, each with a maximum heat input capacity of 0.15 MMBtu/hr.
 - (6) One (1) Parts Storage Area Radiant Heater, with a maximum heat input capacity of 0.025 MMBtu/hr.
 - (7) One (1) Hotsy Model 1835 (Plant), with a maximum heat input capacity of 0.558 MMBtu/hr.
 - (8) One (1) Hi-Efficiency Furnace (Truck Building Office), with a maximum heat input capacity of 0.135 MMBtu/hr.
 - (9) One (1) Water Heater (Truck Building Office), with a maximum heat input capacity of 0.05 MMBtu/hr.
 - (10) Two (2) Shop Radiant Heaters, each with a maximum heat input capacity of 0.25 MMBtu/hr.
 - (11) One (1) Hotsy Model 1835 (Shop), with a maximum heat input capacity of 0.558 MMBtu/hr.
- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

- (l) Blowdown for compressors and pumps.
- (m) Emissions for a laboratory as defined in 326 IAC 2-7-1(21)(D)

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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

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

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]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 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 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

- (a) This permit, T009-30510-00025, 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

- (b) the emission unit to which the condition pertains permanently ceases operation.

B.6 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

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

B.7 Severability [326 IAC 2-7-5(5)]

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 [326 IAC 2-7-5(6)(D)]

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

B.9 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

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

B.10 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:
- (1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(34), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.11 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through

December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

B.12 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (12)][326 IAC 2-7-6(1) and (6)][326 IAC 1-6-3]

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

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

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).
- (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 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

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

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

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

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

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

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

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

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.14 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to

be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
- (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.15 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T009-30510-00025 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.16 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.18 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (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 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.20 Permit Revision Under Economic Incentives and Other Programs
[326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

- (a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are

explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.21 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b) or (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.22 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.23 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

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 Part 70 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 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 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 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.24 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.25 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

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

B.26 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(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 5-1-1 (Applicability) and 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

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

C.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.

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

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

C.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 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control

requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

C.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

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

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

- (a) The Permittee shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) These ERPs shall be submitted for approval to:

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

no later than 180 days from the date on which this source commences operation.

The ERP does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.
- (d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.
- (e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.
- (f) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

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

C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or

- (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

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

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.16 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]
Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

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

C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.
- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, 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.

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description [326 IAC 2-7-5(14)]:

- (a) Two (2) solid raw material (corn gluten) hammermills, identified as EP3-1 and EP3-2, approved in 2011 for construction, each with a maximum capacity of 3.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.
- (b) Two (2) direct, natural gas fired product dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.
- (c) One (1) dried product hammermill, identified as EP3-3, approved in 2011 for construction, with a maximum capacity of 12.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.

(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 2-7-5(1)]

D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the two (2) solid raw material hammermills (EP3-1 and EP3-2), the two (2) dryers (EP1 and EP2), and the dried product hammermill (EP3-3) shall not exceed the values listed in the table below when operating at the listed process weight rates.

Emission Unit	Process Weight Rate (P) (ton/hr)	326 IAC 6-3-2 Allowable PM Rate (E) (lb/hr)
EP3-1: Solids Hammermill #1	3.0	8.56
EP3-2: Solids Hammermill #2	3.0	8.56
EP1: Dryer #1	8.1	16.65
EP2: Dryer #2	8.1	16.65
EP3-3: Dried Product Hammermill	12.0	21.67

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

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

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

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

D.1.2 VOC BACT [326 IAC 8-1-6]

Pursuant to T009-30510-00025 and 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC emissions from the two product dryers (EP1 and EP2) shall be no control and VOC emissions shall not exceed 7.11 pounds per hour for each dryer.

D.1.3 Case-by-Case MACT [326 IAC 2-4.1]

Pursuant to T009-30510-00025 and 326 IAC 2-4.1, MACT for the two (2) product dryers (EP1 and EP2) shall be no control and total VHAP emissions shall not exceed 7.11 pounds per hour for each dryer.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for the two product dryers (EP1 and EP2). Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plans required by this condition.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

No later than sixty (60) days of achieving the maximum production rate, but not later than one hundred eighty (180) days after start-up of one or both of the product dryers (EP1 and/or EP2), in order to confirm emission rates, the Permittee shall perform PM, PM10, PM2.5, VOC, and VHAP testing of the exhaust from one (1) of the two (2) product dryers (EP1 or EP2) utilizing methods approved by the commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition. PM10 and PM2.5 include filterable and condensable PM.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Naturally Recycled Proteins of Indiana, LLC
Source Address: 6800 North 400 East, Montpelier, Indiana 47359
Part 70 Permit No.: T009-30510-00025

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Phone:

Date:

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

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Naturally Recycled Proteins of Indiana, LLC
Source Address: 6800 North 400 East, Montpelier, Indiana 47359
Part 70 Permit No.: T009-30510-00025

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH
 PART 70 OPERATING PERMIT
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Address: 6800 North 400 East, Montpelier, Indiana 47359
 Part 70 Permit No.: T009-30510-00025

Months: _____ to _____ Year: _____

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Mail to: Permit Administration and Support Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Naturally Recycled Proteins of Indiana, LLC
6800 North 400 East,
Montpelier, Indiana 47359

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____.
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)
4. I hereby certify that Naturally Recycled Proteins of Indiana, LLC 6800 North 400 East, Montpelier, Indiana 47359, completed construction of the high-protein pet food flavoring manufacturing facility on in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 5, 2011 and as permitted pursuant to New Source Construction Permit and Part 70 Operating Permit No. T009-30510-00025, Plant ID No. 009-00025 issued on _____.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature _____
Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana
on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature _____
Name _____ (typed or printed)

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

**Addendum to the Technical Support Document (TSD) for a
New Source Construction and Part 70 Operating Permit**

Source Description and Location

Source Name:	Naturally Recycled Proteins of Indiana, LLC
Source Location:	6800 North 400 East, Montpelier, Indiana 47359
County:	Blackford
SIC Code:	2047
Operation Permit No.:	T009-30510-00025
Permit Reviewer:	Laura Spriggs

Public Notice Information

On June 22, 2011, the Office of Air Quality (OAQ) had a notice published in *News Times* in Hartford City, Indiana, stating that Naturally Recycled Proteins of Indiana, LLC had applied for a New Source Construction and Part 70 Operating Permit for a stationary high-protein pet food flavoring manufacturing facility. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments Received

This addendum to the TSD is used to document responses to comments and changes made from the time the permit was drafted until a final decision is made. IDEM, OAQ received comments on July 6, 2011, July 13, 2011, and July 21, 2011 from the following Montpelier citizens:

Cathie McCammon
Donna Sutton
Wendell and Brenda Bonewit
Judith I. and Glen F. Van Camp

The comments are summarized in the subsequent pages, with IDEM's corresponding responses.

Comment 1

Several commenters expressed concern over the amount of emissions from the plant and the health risk of emissions. Commenters stated that the plant should not be built at this location, close to residential areas and where the wind will carry the plant's emissions through Montpelier. Commenters expressed concern over the cancer risk from the emissions and noted that Blackford County is already the subject of a state study due to high cancer rates.

Response 1

The federal Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for the six criteria pollutants: particulate matter, ozone, carbon monoxide, nitrogen

oxides, sulfur dioxide and lead. The particulate matter standard has two components. There is one standard for inhalable coarse particles, such as those found near roadways and dusty industries. These inhalable coarse particles are referred to as PM₁₀. They are smaller than 10 micrometers in diameter. There is a second standard for fine particles, such as those found in smoke and haze, that are 2.5 micrometers in diameter and smaller. These fine particles, referred to as PM_{2.5}, exist in solid, liquid, or gaseous form and are a result of combustion processes and various industrial processes. Fine particulate can be emitted either directly from the source or formed secondarily in the atmosphere by reacting with gases such as sulfur dioxide, nitrogen oxides, ammonia, and volatile organic carbons that are emitted from power plants, industries, and automobiles.

Exposure to high concentrations of any of the criteria pollutants is associated with numerous effects on human health, including increased respiratory symptoms, hospitalization for heart or lung diseases, and even premature death. Detailed information about the health effects of each of the criteria pollutants is available at <http://www.epa.gov/air/urbanair/> on the Internet. More information about the criteria pollutants is available at <http://www.epa.gov/air/airpollutants.html> on U.S. EPA's website.

All of the NAAQS are set at low concentration levels that protect human health, including the health of the most sensitive persons in the population, such as children, the elderly and those with preexisting medical conditions. The NAAQS are often referred to as the federal health standards for outdoor air. The complete table of the NAAQS can be found at <http://www.epa.gov/air/criteria.html> on the Internet. U.S. EPA and IDEM have determined that Blackford County currently meets all the NAAQS.

IDEM performed computer modeling of the maximum amount of criteria pollutants that will be allowed from NRP's plant to see the effect these additional emissions will have on air quality. The modeling results show that the NRP plant will not cause or contribute to a violation of any of the National Ambient Air Quality Standards. The modeling was done assuming that people reside as close as the property line of the NRP plant as well as throughout the area.

IDEM also conducts sampling of the ambient air at monitoring stations around Indiana. This air monitoring is conducted to measure whether the NAAQS are being met. Information about Indiana's air monitoring system and monitoring results is available at <http://www.in.gov/idem/4116.htm> on the Internet. Information about current and expected air pollution levels is available on IDEM's SmogWatch site at <http://www.in.gov/apps/idem/smog/> on the Internet.

IDEM is aware that the Indiana State Department of Health is investigating higher than average cancer rates in east central Indiana, including Blackford County. This investigation has not yet made any final findings or determinations. IDEM does not have any regulatory authority to consider this investigation in permitting NRP's plant.

Toxic air pollutants, also known as hazardous air pollutants (HAPs), are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects. Examples of HAPs include benzene, which is found in gasoline; perchlorethylene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper. You can find out more information about HAPs at <http://www.epa.gov/ttn/atw/allabout.html> on U.S. EPA's website.

The NRP plant will have emissions of volatile organic compounds (VOCs) from its two product dryers. Depending on the exact types of VOCs emitted, the VOCs may or may not be hazardous air pollutants (HAPs). However, the exact makeup of the dryer VOC emissions is unknown. This is the first process of this type to be permitted in Indiana. IDEM has therefore made a conservative assumption that all of the VOC emissions from the product dryers will be volatile

hazardous air pollutants (VHAPs). Each dryer has potential emissions of 31.16 tons per year of VHAPs.

Pursuant to federal and state law, IDEM used a Maximum Achievable Control Technology (MACT) analysis to determine how HAPs emissions from the dryers should be controlled. The complete MACT analysis is set out in Appendix C to the Technical Support Document. The MACT emission limit can be no less than the lowest emission limitation achieved in practice by the best controlled similar source. However, the only other similar source using this manufacturing process is another NRP plant located in Iowa. The Iowa plant operates without any air pollution control devices or limitations on HAPs. Air pollution controls, which can control VHAP emissions, are available. However, the MACT impacts analysis step showed that none of the controls were economically feasible. Therefore there are no MACT controls required for the dryers. The dryers are limited to 7.11 pounds per hour of VHAP emissions.

NRP is required to test the product dryer exhaust for VHAPs under Condition D.1.5 of the permit. This testing will determine the actual HAP emissions from this process. The testing must be done within sixty days after the process reaches its maximum production rate, but no later than 180 days after the dryers start operating. The testing results will be available to the public.

No change has been made to the permit as a result of this comment.

Comment 2

Several commenters expressed concern over the odors that may result from the plant's operation. Some commenters had visited a similar plant in Iowa and described its smell as "horrific", "extremely horrible", and "a terrible stench". Commenters expressed that the location of the plant was too close to the community and to residential areas and that it will have a detrimental effect on the community.

Response 2

IDEM, OAQ recognizes that odors that may be emitted by the plant and the plant's overall effect on the quality of life of the community are of great personal concern to the commenters. However, IDEM does not have any legal authority to regulate or consider odors or quality of life concerns when issuing air permits. IDEM has no authority to determine where a plant should be located. Local governmental units have the authority to determine zoning and other local requirements. There are no standards for odors set out in Indiana's air permit rules.

However, unusual odors can be an indicator that a source is operating out of compliance with its air permit requirements. Any citizen noticing an unusual odor from any permitted source should report it to IDEM. Please make any complaints through IDEM's Complaint Clearinghouse. Citizens can file a complaint with IDEM in any of three different ways:

1. submit a complaint on line at <http://www.in.gov/idem/5274.htm> on IDEM's website;
2. call the Complaint Coordinator toll free at (800) 451-6027 ext.24464; or
3. print, complete, and mail a paper-based Complaint Submission Form. The IDEM Complaint form is available at <http://www.in.gov/idem/5157.htm#agency> on IDEM's website.

Citizens do not have to provide any personal information (such as name, phone number) when filing a complaint. However, providing personal information enables IDEM to contact citizens for further information and keep them updated on the progress of the complaint investigation. Any information submitted to IDEM can become public record, subject to public records laws.

No change has been made to the permit as a result of this comment.

Comment 3

Commenters noted that drainage from the plant will adversely affect nearby landowners with a history of poor drainage.

Response 3

IDEM recognizes that drainage from the plant is of personal concern to the commenters. However, IDEM does not have any legal authority to regulate or consider drainage when issuing air permits.

Indiana's Department of Natural Resources, Department of Water, can serve as a resource for the establishment of a conservancy district in your area. Water conservancy districts are authorized under Indiana law to address flooding, drainage, and other issues. For more information on community & landowner assistance with water resources please visit DNR's website at <http://www.in.gov/dnr/3187.htm> on the Internet.

No change has been made to the permit as a result of this comment.

Comment 4

Commenters felt that the plant will actually hire fewer employees than its current projection and that the number of jobs does not justify allowing the plant to operate.

Response 4

IDEM recognizes that this issue is of personal concern to the commenters. However, IDEM does not have any legal authority to regulate or consider the number of jobs that a plant will create when issuing an air permit.

No change has been made to the permit as a result of this comment.

Comment 5

Commenters expressed concern that the plant's well water usage could deplete the city's public water well as well as depleting private water wells.

Response 5

IDEM does not have any legal authority to regulate or consider the well water impacts that a plant may create when issuing an air permit. However, Indiana's Department of Natural Resources has jurisdiction over many water well issues. Some high capacity water wells must be registered with DNR. In addition, owners of most small-capacity water wells are protected from significant ground water withdrawal facilities. For more information on water availability, use and rights, please go to DNR's website at <http://www.in.gov/dnr/water/2451.htm> on the Internet.

No change has been made to the permit as a result of this comment.

Permit Changes

Upon further review, the OAQ has decided to make the following revision to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**):

Change No. 1

In order to clarify that the testing condition should be enacted within the timeframe specified in Condition D.1.5 when at least one of the dryers has started-up, the wording of Condition D.1.5 has been revised as shown below.

D.1.5 Testing Requirements [326 IAC 2-1.1-11]

No later than sixty (60) days of achieving the maximum production rate, but not later than one hundred eighty (180) days after start-up of **one or both of** the product dryers (EP1 and/or EP2), in order to confirm emission rates, the Permittee shall perform PM, PM10, PM2.5, VOC, and VHAP testing of the exhaust from one (1) of the two (2) product dryers (EP1 or EP2) utilizing methods approved by the commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition. PM10 and PM2.5 include filterable and condensable PM.

The IDEM does not amend the Technical Support Document (TSD). The TSD is maintained to document the original review. This addendum to the TSD is used to document responses to comments and changes made from the time the permit was drafted until a final decision is made.

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

**Technical Support Document (TSD) for a New Source Construction
and Part 70 Operating Permit**

Source Background and Description

Source Name:	Naturally Recycled Proteins of Indiana, LLC
Source Location:	6800 North 400 East, Montpelier, Indiana 47359
County:	Blackford
SIC Code:	2047
Operation Permit No.:	T009-30510-00025
Permit Reviewer:	Laura Spriggs

On May 5, 2011, Naturally Recycled Proteins of Indiana, LLC submitted an application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a New Source Construction and Part 70 Operating Permit to construct and operate a high-protein pet food flavoring manufacturing facility to be located at 6800 North 400 East, Montpelier, Indiana.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) Two (2) solid raw material (corn gluten) hammermills, identified as EP3-1 and EP3-2, approved in 2011 for construction, each with a maximum capacity of 3.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.
- (b) Two (2) direct, natural gas fired product dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.
- (c) One (1) dried product hammermill, identified as EP3-3, approved in 2011 for construction, with a maximum capacity of 12.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) Truck receiving of solid raw materials (corn gluten), exhausting internally.
- (b) Thirteen (13) raw product liquid storage tanks for storage of stabilized poultry solubles, vented and exhausting internally.
- (c) Twelve (12) ingredient bins for storage of solid raw material (corn gluten), tote fed or bulk fed via conveyors, and exhausting internally.
- (d) Conveyance of solid materials (corn gluten), exhausting internally.
- (e) One (1) enclosed solids material mixer, exhausting internally.

- (f) Two (2) mixed material blenders, exhausting internally.
- (g) Twelve (12) storage bins for finished dried product, elevator/auger fed, and exhausting internally.
- (h) Finished product load-out, exhausting internally.
- (i) Unpaved roads for material receiving and product shipping. [326 IAC 6-4] [326 IAC 6-5]
- (j) Space heaters, process heaters, or boilers with natural gas-fired combustion with heat input equal to or less than ten million (10,000,000) Btu per hour, including:
 - (1) One (1) Hi-Efficiency Furnace (Office), with a maximum heat input capacity of 0.135 MMBtu/hr.
 - (2) One (1) Water Heater (Office), with a maximum heat input capacity of 0.05 MMBtu/hr.
 - (3) One (1) Dryer Room Make-up Air Unit, with a maximum heat input capacity of 5.775 MMBtu/hr.
 - (4) Four (4) Tanker Bay Radiant Heaters, each with a maximum heat input capacity of 0.1 MMBtu/hr.
 - (5) Four (4) Tank Area Radiant Heaters, each with a maximum heat input capacity of 0.15 MMBtu/hr.
 - (6) One (1) Parts Storage Area Radiant Heater, with a maximum heat input capacity of 0.025 MMBtu/hr.
 - (7) One (1) Hotsy Model 1835 (Plant), with a maximum heat input capacity of 0.558 MMBtu/hr.
 - (8) One (1) Hi-Efficiency Furnace (Truck Building Office), with a maximum heat input capacity of 0.135 MMBtu/hr.
 - (9) One (1) Water Heater (Truck Building Office), with a maximum heat input capacity of 0.05 MMBtu/hr.
 - (10) Two (2) Shop Radiant Heaters, each with a maximum heat input capacity of 0.25 MMBtu/hr.
 - (11) One (1) Hotsy Model 1835 (Shop), with a maximum heat input capacity of 0.558 MMBtu/hr.
- (k) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (l) Blowdown for compressors and pumps.
- (m) Emissions for a laboratory as defined in 326 IAC 2-7-1(21)(D)

Existing Approvals

There have been no previous approvals issued to this source.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Blackford County.

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

- (a) **Ozone Standards**
 Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Blackford County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
 Blackford County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions until 326 IAC 2-2 is revised.
- (c) **Other Criteria Pollutants**
 Blackford County has been classified as attainment or unclassifiable in Indiana for SO₂, CO, PM₁₀, NO₂, and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

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

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
EP-1	EP1 (Dryer #1)	85	4.25	40,000	190
EP-2	EP2 (Dryer #2)	85	4.50	48,000	120

Unrestricted Potential Emissions

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	158.8
PM ₁₀	198.2
SO ₂	0.10
VOC	62.5
CO	14.0
NO _x	16.7
Single HAP	Greater than 10*
Total HAP	Greater than 25*

*A conservative assumption is being made that most or all of the VOC from the dryers is present as VHAP, and therefore, the potential to emit for a single HAP and/or for total HAPs may be greater than 10 and 25 tons per year, respectively.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10 and PM2.5 is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Part 70 Operating Permit (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs	Worst Single HAP	CO ₂ e
EP3-1: Solids Hammermill #1	15.77	7.88	7.88	--	--	--	--	--	--	--
EP3-2: Solids Hammermill #2	15.77	7.88	7.88	--	--	--	--	--	--	--
EP1: Dryer #1	26.98	72.9	72.9	0.04	6.44	31.16	5.41	31.16	*	6974
EP2: Dryer #2	26.98	72.9	72.9	0.04	6.44	31.16	5.41	31.16	*	6974
EP3-3: Dried Product Hammermill	63.07	31.54	31.54	--	--	--	--	--	--	--
Truck Receiving, Solids Material	0.45	0.07	0.07	--	--	--	--	--	--	--
Raw Product Liquid Storage Tanks	--	--	--	--	--	--	--	--	--	--
Bin Storage, Solids Material	0.66	0.17	0.03	--	--	--	--	--	--	--
Conveying, Solids Material	1.60	0.89	0.15	--	--	--	--	--	--	--
Solids Materials Mixer	1.60	0.89	0.15	--	--	--	--	--	--	--
Mixed Materials Blender #1	2.16	1.21	0.21	--	--	--	--	--	--	--
Mixed Materials Blender #2	2.16	1.21	0.21	--	--	--	--	--	--	--
Finished Product Bins	1.31	0.33	0.06	--	--	--	--	--	--	--
Product Load-Out	0.17	0.04	0.04	--	--	--	--	--	--	--
Insignificant Combustion Sources	0.07	0.29	0.29	0.02	3.77	0.21	3.17	0.07	0.07	4085
Total PTE of Entire Source	158.8	198.2	194.4	0.10	16.7	62.5	16.7	>25*	>10*	18,032
Title V Major Source Thresholds	N/A	100	100	100	100	100	100	25	10	100,000
PSD Major Source Thresholds	250	250	250	250	250	250	250	N/A	N/A	100,000

*A conservative assumption is being made that most or all of the VOC from the dryers is present as VHAP, and therefore, the potential to emit for a single HAP and/or for total HAPs may be greater than 10 and 25 tons per year, respectively.

- (a) This stationary source is not major for PSD because the emissions of each regulated pollutant are less than two hundred fifty (<250) tons per year, and it is not in one of the twenty-eight (28) listed source categories.

- (b) This stationary source is not major for PSD because the emissions of GHGs (calculated as CO₂e) is less than 100,000 tons per year, and it will be a new stationary source after July 1, 2011.

Federal Rule Applicability Determination

The following is a discussion of the federal rule applicability for this source:

Compliance Assurance Monitoring (CAM):

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM:

Emission Unit / Pollutant	Control Device Used	Emission Limitation or Standard (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
EP3-1: Solids Hammermill #1 - PM	BH	N	15.77	0.16	100	N	N
EP3-2: Solids Hammermill #2 - PM	BH	N	15.77	0.16	100	N	N
EP3-3: Dried Product Hammermill - PM	BH	N	63.07	0.16	100	N	N

BH = Baghouse

Based upon this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to any of the units as part of this Part 70 operating permit.

New Source Performance Standards (NSPS)

- (b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed new source.
- (c) 40 CFR 60, Subpart Kb: Standards of Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

The provisions of the New Source Performance Standards for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984, 40 CFR 60.110b,

Subpart Kb, are not being included in the permit for the raw product liquid storage tanks because they are not expected to emit VOCs.

- (d) 40 CFR 60, Subpart DD, Standards of Performance for Grain Elevators

This source is not subject to the requirements of the New Source Performance Standard for Grain Elevators, 40 CFR 60.300, Subpart DD because the source does not receive, handle, or store grain.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (e) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed new source.

State Rule Applicability - Entire Source

The following is a discussion of the state rule applicability for this source:

326 IAC 1-5-2 (Emergency Reduction Plans)

The source is subject to 326 IAC 1-5-2.

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

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

326 IAC 2-2 (PSD)

This source will be approved in 2011 for construction. The unrestricted PTE of PM, PM10, PM2.5, VOC, CO, NOx, and SO2 are each less than two hundred fifty (250) tons per year and this source does not belong to 1 of 28 source categories. The unrestricted potential to emit of CO2e is less than 100,000 tons per year. Therefore, this source is a minor source under 326 IAC 2-2 (PSD).

326 IAC 2-6 (Emission Reporting)

This source, not located in Lake, Porter, or LaPorte County, is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of VOC and PM10 is less than 250 tons per year; and the potential to emit of CO, NOx, and SO2 is less than 2,500 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(2), triennial reporting is required. An emission statement shall be submitted in accordance with the compliance schedule in 326 IAC 2-6-3 by July 1, 2014, and every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Opacity from a source or facility shall not exceed any of the following limitations, and, unless otherwise stated, opacity levels shall be observed in accordance with the procedures set forth in 326 IAC 5-1-4:

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

- (a) Pursuant to 326 IAC 6-4-2, a source generating fugitive dust shall be in violation if any of the following criteria are violated:

- (1) A source or combination of sources which cause to exist fugitive dust concentrations greater than sixty-seven percent (67%) in excess of ambient upwind concentrations as determined by the following formula:

$$P = \frac{100 * (R - U)}{U}$$

Where

P = Percentage increase

R = Number of particles of fugitive dust measured at downward receptor site

U = Number of particles of fugitive dust measured at upwind or background site

- (2) The fugitive dust is comprised of fifty percent (50%) or more respirable dust, then the percent increase of dust concentration in (1) above shall be modified as follows:

$$P_R = (1.5 \pm N) * P$$

Where

N = Fraction of fugitive dust that is respirable dust

P_R = allowable percentage increase in dust concentration above background

P = no value greater than sixty-seven percent (67%)

- (3) The ground level ambient air concentrations exceed fifty (50) micrograms per cubic meter above background concentrations for a sixty (60) minute period.
- (4) If fugitive dust is visible crossing the boundary or property line of a source. This subdivision may be refuted by factual data expressed in subdivisions (1), (2) or (3) of this section. 326 IAC 6-4-2(4) is not federally enforceable.
- (b) Pursuant to 326 IAC 6-4-6(6) (Exceptions), fugitive dust from a source caused by adverse meteorological conditions will be considered an exception to this rule (326 IAC 6-4) and therefore not in violation.

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

The unpaved roads are not subject to the provisions of 326 IAC 6-5 because, although they are a new source of fugitive particulate matter emissions, the potential fugitive particulate matter emissions are less than twenty-five (25) tons per year.

State Rule Applicability – Individual Facilities

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

It has been determined that there are potential VOC emissions from the drying ovens. The speciation of VOCs is unknown, so a conservative assumption has been made that all of the estimated VOC emissions from the dryers are going to be present as VHAPs. Therefore, the construction of this new source will have the potential to emit greater than twenty-five (25) tons per year of a combination of HAPs and possibly greater than ten (10) tons per year of a single HAP. Therefore, this project is considered a construction of a major source, pursuant to 40 CFR 63. This source is not specifically regulated or exempted from regulation by a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act; therefore, this source is subject to the provisions of 326 IAC 2-4.1.

A detailed case-by-case MACT analysis is included in Appendix C to this TSD. Pursuant to 326 IAC 2-4.1, MACT for the two (2) product dryers (EP1 and EP2) shall be no control and total VHAP emissions shall not exceed 7.11 pounds per hour for each dryer.

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

- (a) Pursuant to 326 IAC 6-3-1(b)(14), the provisions of 326 IAC 6-3 are not applicable to manufacturing processes with potential emissions less than 0.551 pound per hour. Therefore, the following are not subject to 326 IAC 6-3: Truck Receiving, Solids Bin Storage, Solids Conveying, Solids Material Mixer, Mixed Materials Blenders, Finished Product Bins, and Product Loadout.
- (b) The insignificant natural gas combustion sources are not subject to the provisions of 326 IAC 6-3 because they are not manufacturing processes.
- (b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the hammermills and dryers shall not exceed pounds per hour limits when operating at the process weight rates as listed in the table below:

Emission Unit	Process Weight Rate (P) (ton/hr)	326 IAC 6-3-2 Allowable PM Rate (E) (lb/hr)	Uncontrolled PTE of PM (lb/hr)	Controlled PTE of PM (lb/hr)	Capable of Complying with 326 IAC 6-3-2?
EP3-1: Solids Hammermill #1	3.0	8.56	3.60	0.04	yes, without control
EP3-2: Solids Hammermill #2	3.0	8.56	3.60	0.04	yes, without control
EP1: Dryer #1	8.1	16.65	6.16	6.16	yes, without control
EP2: Dryer #2	8.1	16.65	6.16	6.16	yes, without control
EP3-3: Dried Product Hammermill	12.0	21.67	14.40	0.14	yes, without control

The pound per hour limitations were calculated with the following equation:

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

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

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

The provisions of 326 IAC 8-1-6 are applicable to new facilities, as of January 1, 1980, that have potential VOC emissions of twenty-five (25) tons or more per year, and that are not otherwise regulated by another provision of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. The dryers each have potential VOC emissions greater than twenty-five (25) tons per year and are not otherwise regulated by 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. Therefore, the dryers are subject to 326 IAC 8-1-6.

A detailed BACT analysis is included in Appendix B to this TSD. Pursuant to 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC emissions from the two product dryers (EP1 and EP2) shall be no control and VOC emissions shall not exceed 7.11 pounds per hour for each dryer.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal

rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

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

Testing

No later than sixty (60) days of achieving the maximum production rate, but not later than one hundred eighty (180) days after start-up of the product dryers (EP1 and EP2), in order to confirm emission rates, the Permittee shall perform PM, PM10, PM2.5, VOC, and VHAP testing of the exhaust from one (1) of the two (2) product dryers (EP1 or EP2) utilizing methods approved by the commissioner. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the testing required by this condition. PM10 and PM2.5 include filterable and condensable PM.

This testing is necessary to verify emission estimates for this process that is the first of its kind in Indiana. It is also necessary to demonstrate compliance with the 326 IAC 8-1-6 BACT and 326 IAC 2-4.1 MACT limits.

The source shall perform a screening test to determine the HAPs present in the dryer exhaust through Method TO 15. If all HAPs consist of only carbon and hydrogen, Method 25A can be used to quantify the HAPs emission rate.

There are no compliance monitoring requirements applicable to this source.

Recommendation

The staff recommends to the Commissioner that the New Source Construction and Part 70 Operating Permit be approved. This recommendation is based upon the following facts and conditions:

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

An application for the purposes of this review was received on May 5, 2011. Additional information was received on May 9, 2011, May 14, 2011, and May 16, 2011.

Conclusion

The construction and operation of this high-protein pet food flavoring manufacturing facility shall be subject to the conditions of the attached New Source Construction and Part 70 Operating Permit No. T009-30510-00025.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Laura Spriggs at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-5693 or toll free at 1-800-451-6027 extension 3-5693.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**TSD Appendix A: Emission Calculations
Summary**

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Location: 6800 North 400 East, Montpelier, IN 47359
 Part 70 OP No.: T009-30510-00025
 Reviewer: Laura Spriggs

Uncontrolled PTE (ton/yr)

Emission Unit	PM	PM10	PM2.5	VOC	SO2	CO	NOx	Single HAP	Total HAPs	CO2e	GHG mass
EP3-1: Solids Material Hammermill #1	15.77	7.88	7.88	--	--	--	--	--	--	--	--
EP3-2: Solids Material Hammermill #2	15.77	7.88	7.88	--	--	--	--	--	--	--	--
EP1: Dryer #1	26.98	72.93	72.93	31.16	0.04	5.41	6.44	*	31.16	7776.5	7729.7
EP2: Dryer #2	26.98	72.93	72.93	31.16	0.04	5.41	6.44	*	31.16	7776.5	7729.7
EP3-3: Dried Product Hammermill	63.07	31.54	31.54	--	--	--	--	--	--	--	--
Insignificant Activities											
Truck Receiving, Solids Material	0.45	0.07	0.07	--	--	--	--	--	--	--	--
Raw Product Liquid Storage Tanks	--	--	--	--	--	--	--	--	--	--	--
Bin Storage, Solids Material	0.66	0.17	0.03	--	--	--	--	--	--	--	--
Conveying, Solids Material	1.60	0.89	0.15	--	--	--	--	--	--	--	--
Solids Materials Mixer	1.60	0.89	0.15	--	--	--	--	--	--	--	--
Mixed Materials Blender #1	2.16	1.21	0.21	--	--	--	--	--	--	--	--
Mixed Materials Blender #2	2.16	1.21	0.21	--	--	--	--	--	--	--	--
Finished Product Bins	1.31	0.33	0.06	--	--	--	--	--	--	--	--
Product Load-Out	0.17	0.04	0.04	--	--	--	--	--	--	--	--
Insignificant Combustion Sources	0.07	0.29	0.29	0.21	0.02	3.17	3.77	0.06	0.07	4554.9	4527.5
Total	158.8	198.2	194.4	62.5	0.10	14.0	16.7	0.06	62.39	20107.8	19986.9

Controlled PTE (ton/yr)

Emission Unit	PM	PM10	PM2.5	VOC	SO2	CO	NOx	Single HAP	Total HAPs	CO2e	GHG mass
EP3-1: Solids Material Hammermill #1	0.16	0.08	0.08	--	--	--	--	--	--	--	--
EP3-2: Solids Material Hammermill #2	0.16	0.08	0.08	--	--	--	--	--	--	--	--
EP1: Dryer #1	26.98	72.93	72.93	31.16	0.04	5.41	6.44	*	31.16	7776.45	7729.70
EP2: Dryer #2	26.98	72.93	72.93	31.16	0.04	5.41	6.44	*	31.16	7776.45	7729.70
EP3-3: Dried Product Hammermill	0.63	0.32	0.32	--	--	--	--	--	--	--	--
Insignificant Activities											
Truck Receiving, Solids Material	0.45	0.07	0.07	--	--	--	--	--	--	--	--
Raw Product Liquid Storage Tanks	--	--	--	--	--	--	--	--	--	--	--
Bin Storage, Solids Material	0.66	0.17	0.03	--	--	--	--	--	--	--	--
Conveying, Solids Material	1.60	0.89	0.15	--	--	--	--	--	--	--	--
Solids Materials Mixer	1.60	0.89	0.15	--	--	--	--	--	--	--	--
Mixed Materials Blender #1		1.21	0.21	--	--	--	--	--	--	--	--
Mixed Materials Blender #2	2.16	1.21	0.21	--	--	--	--	--	--	--	--
Finished Product Bins	1.31	0.33	0.06	--	--	--	--	--	--	--	--
Product Load-Out	0.17	0.04	0.04	--	--	--	--	--	--	--	--
Insignificant Combustion Sources	0.07	0.29	0.29	0.21	0.02	3.17	3.77	0.06	0.07	4554.9	4527.5
Total	62.9	151.4	147.5	62.5	0.10	14.0	16.7	0.1	62.4	20107.8	19986.9

*HAPs for dryers are estimated by assuming all VOC is VHAP

TSD Appendix A: Emission Calculations
Particulate Sources of Emissions

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Location: 6800 North 400 East, Montpelier, IN 47359
 Part 70 OP No.: T009-30510-00025
 Reviewer: Laura Spriggs

Emission Unit	Maximum Capacity (ton/hr)	Uncontrolled Emission Factor (lb/ton)				Uncontrolled PTE (lb/hr)			Uncontrolled PTE (ton/yr)			Control Efficiency	Controlled PTE (ton/yr)		
		PM	PM10	PM2.5	EF Ref	PM	PM10	PM2.5	PM	PM10	PM2.5		PM	PM10	PM2.5
Truck Receiving, Solids Material	6	0.017	0.0025	0.0025	[1]	0.102	0.015	0.015	0.45	0.07	0.07	0%	0.45	0.07	0.07
Bin Storage, Solids Material	6	0.025	0.0063	0.0011	[3]	0.150	0.038	0.007	0.66	0.17	0.03	0%	0.66	0.17	0.03
Conveying, Solids Material	6	0.061	0.034	0.0058	[3]	0.366	0.204	0.035	1.60	0.89	0.15	0%	1.60	0.89	0.15
Solids Material Hammermill #1	3	1.2	0.6	0.6	[2]	3.600	1.800	1.800	15.77	7.88	7.88	99%	0.16	0.08	0.08
Solids Material Hammermill #2	3	1.2	0.6	0.6	[2]	3.600	1.800	1.800	15.77	7.88	7.88	99%	0.16	0.08	0.08
Solids Materials Mixer	6	0.061	0.034	0.0058	[3]	0.366	0.204	0.035	1.60	0.89	0.15	0%	1.60	0.89	0.15
Mixed Materials Blender #1	8.1	0.061	0.034	0.0058	[3]	0.494	0.275	0.047	2.16	1.21	0.21	0%	2.16	1.21	0.21
Mixed Materials Blender #2	8.1	0.061	0.034	0.0058	[3]	0.494	0.275	0.047	2.16	1.21	0.21	0%	2.16	1.21	0.21
Dried Product Hammermill	12	1.2	0.6	0.6	[2]	14.400	7.200	7.200	63.07	31.54	31.54	99%	0.63	0.32	0.32
Finished Product Bins	12	0.025	0.0063	0.0011	[3]	0.300	0.076	0.013	1.31	0.33	0.06	0%	1.31	0.33	0.06
Product Load-Out	12	0.0033	0.0008	0.0008	[1]	0.040	0.010	0.010	0.17	0.04	0.04	0%	0.17	0.04	0.04

Methodology

[1] Emission Factors from AP-42, Table 9.9.1-2 for Animal Feed Mills

[2] Emission Factors from AP-42, Table 9.9.1-2 for Animal Feed Mills. The Uncontrolled Emission Factor was estimated assuming 99% baghouse control (Uncontrolled EF = Controlled EF / (1 - 0.99))

[3] Emission Factors from AP-42, Table 9.9.1-1 for Grain Elevators

Uncontrolled PTE (lb/hr) = Maximum Capacity (ton/hr) x Uncontrolled Emission Factor (lb/ton)

Uncontrolled PTE (ton/yr) = Uncontrolled PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

Controlled PTE (ton/yr) = Uncontrolled PTE (ton/yr) x (1 - Control Efficiency)

TSD Appendix A: Emission Calculations
Dryers (EP1 and EP2)

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Location: 6800 North 400 East, Montpelier, IN 47359
 Part 70 OP No.: T009-30510-00025
 Reviewer: Laura Spriggs

Dryer Combustion Emissions

Emission Factor in lb/MMCF			Criteria Pollutants						GHGs					
			PM*,**	PM10**,**	PM2.5**,**	SO2	NOx	VOC**	CO	CO2	N2O	CH4	GHG Mass-Based	CO2e
Emissions Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)											
EP1 - Dryer #1	15	128.824	0.122	0.490	0.490	0.039	6.441	0.354	5.411	7729.412	0.142	0.148	7729.702	7776.452
EP2 - Dryer #2	15	128.824	0.122	0.490	0.490	0.039	6.441	0.354	5.411	7729.412	0.142	0.148	7729.702	7776.452
Total			0.24	0.98	0.98	0.08	12.88	0.71	10.82	15458.82	0.28	0.30	15459.40	15552.90

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2. NOx EF based on uncontrolled firing.

*PM includes filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM combined.

**The dryer process emissions calculated below include both the process emissions and the combustion emission

Emission Factor in lb/MMCF			HAPs - Organics					HAPs - Metals					Total HAPs
			Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	
Emissions Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)										
EP1 - Dryer #1	15	128.824	1.4E-04	7.7E-05	4.8E-03	1.2E-01	2.2E-04	3.2E-05	7.1E-05	9.0E-05	2.4E-05	1.4E-04	1.2E-01
EP2 - Dryer #2	15	128.824	1.4E-04	7.7E-05	4.8E-03	1.2E-01	2.2E-04	3.2E-05	7.1E-05	9.0E-05	2.4E-05	1.4E-04	1.2E-01
Total			2.7E-04	1.5E-04	9.7E-03	2.3E-01	4.4E-04	6.4E-05	1.4E-04	1.8E-04	4.9E-05	2.7E-04	2.4E-01

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs are available in the AP-42 tables referenced above.

Total HAPs is the sum of all HAP emission factors listed in AP-42 Tables 1.4-3 and 1.4-4.

Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu

Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

GHGs:

GHG Mass-Based (ton/yr) = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)

$$CO2e = \sum_{i=1}^n GHG_i \cdot GWP_i$$

Where: CO2e = carbon dioxide equivalent (ton/yr)
 GHGi = mass emission rate of each greenhouse gas (ton/yr)
 GWPi = global warming potential for each greenhouse gas
 n = number of greenhouse gases emitted
 GWPs from 40 CFR 98, Subpart A, Table A-1: 1 for CO2, 21 for CH4, 310 for N2O

Dryer Process Emissions

Emission Unit	Maximum Output Capacity (ton/hr)	Emission Factor (lb/ton)					PTE (lb/hr)					PTE (ton/yr)				
		PM	PM10/PM2.5	VOC	NH3	H2S	PM	PM10/PM2.5	VOC	NH3	H2S	PM	PM10/PM2.5	VOC	NH3	H2S
EP1 - Dryer #1	6	1.027	2.775	1.19	0.60	0.08	6.1605	16.65	7.11	3.60	0.48	26.98	72.93	31.16	15.77	2.10
EP2 - Dryer #2	6	1.027	2.775	1.19	0.60	0.08	6.1605	16.65	7.11	3.60	0.48	26.98	72.93	31.16	15.77	2.10

Methodology

PTE (lb/hr) = Maximum Output Capacity (ton/hr) x EF (lb/ton produced)

PTE (ton/yr) = PTE (lb/hr) x (8760 hr/yr) x (1 ton/2000 lb)

PM10/PM2.5 Emission Factor based on emissions testing at a similar facility in IA, with a conservative factor built in (includes filterable and condensable).

PM includes filterable only (37% of the emissions).

NH3 and H2S Emission Factors from AP-42, Table 9.5.3-2 for blood dryers (not exactly the same as this type of process)

VOC Emission Factor based on VOCs measured at the IA dryer with a hand-held RKI Eagle Portable Gas Detector model E-08080 calibrated to respond as hexane

During the measurements:

Production 9.5 tons/hr
 Airflow 28000 acfm
 Hexane Response 30 ppm
 EF Calculated 1.19 lb VOC/ton product

$$= 30 \text{ ppmv} \times (86.17 \text{ lb/lbmol hexane}) \times (1 \text{ atm}) \times (28,000 \text{ acfm}) \times (60 \text{ min/hr}) / [(0.7302 \text{ cf-atm/lbmol-R}) \times (528 \text{ R}) \times (9.5 \text{ ton produced/hr})]$$

TSD Appendix A: Emission Calculations
Natural Gas Combustion - Insignificant Activities

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Location: 6800 North 400 East, Montpelier, IN 47359
 Part 70 OP No.: T009-30510-00025
 Reviewer: Laura Spriggs

Emission Factor in lb/MMCF			Criteria Pollutants						GHGs					
			PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO	CO2	N2O	CH4	GHG Mass-Based	CO2e
			1.9	7.6	7.6	0.6	100.0	5.5	84.0	120000	2.2	2.3		
Emissions Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)											
Hi-Efficiency Furnace (Office)	0.135	1.159	0.001	0.004	0.004	0.000	0.058	0.003	0.049	69.565	0.001	0.001	69.567	69.98807
Water Heater (Office)	0.05	0.429	0.000	0.002	0.002	0.000	0.021	0.001	0.018	25.765	0.000	0.000	25.766	25.92151
Dryer Room Make-up Air Unit	5.775	49.597	0.047	0.188	0.188	0.015	2.480	0.136	2.083	2975.824	0.055	0.057	2975.935	2993.934
Tanker Bay Radiant Heaters	0.4	3.435	0.003	0.013	0.013	0.001	0.172	0.009	0.144	206.118	0.004	0.004	206.125	207.372
Tank Area Radiant Heaters	0.6	5.153	0.005	0.020	0.020	0.002	0.258	0.014	0.216	309.176	0.006	0.006	309.188	311.0581
Parts Storage Radiant Heater	0.025	0.215	0.000	0.001	0.001	0.000	0.011	0.001	0.009	12.882	0.000	0.000	12.883	12.96075
Hotsy Model 1835 (Plant)	0.558	4.792	0.005	0.018	0.018	0.001	0.240	0.013	0.201	287.534	0.005	0.006	287.545	289.284
Hi-Efficiency Furnace (Truck Bldg Office)	0.135	1.159	0.001	0.004	0.004	0.000	0.058	0.003	0.049	69.565	0.001	0.001	69.567	69.98807
Water Heater (Truck Bldg Office)	0.05	0.429	0.000	0.002	0.002	0.000	0.021	0.001	0.018	25.765	0.000	0.000	25.766	25.92151
Shop Radiant Heaters	0.5	4.294	0.004	0.016	0.016	0.001	0.215	0.012	0.180	257.647	0.005	0.005	257.657	259.2151
Shop - Hotsy Model 1835	0.558	4.792	0.005	0.018	0.018	0.001	0.240	0.013	0.201	287.534	0.005	0.006	287.545	289.284
Total			0.07	0.29	0.29	0.02	3.77	0.21	3.17	4527.37	0.08	0.09	4527.54	4554.93

Emission Factors are from AP-42, Tables 1.4-1 and 1.4-2. NOx EF based on uncontrolled firing.

*PM includes filterable only. PM10 and PM2.5 emission factors are filterable and condensable PM combined.

Emission Factor in lb/MMCF			HAPs - Organics					HAPs - Metals					Total HAPs
			Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Lead	Cadmium	Chromium	Manganese	Nickel	
			2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	1.8880
Emissions Unit	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)	Potential Emissions (tons/yr)										
Hi-Efficiency Furnace (Office)	0.135	1.159	1.2E-06	7.0E-07	4.3E-05	1.0E-03	2.0E-06	2.9E-07	6.4E-07	8.1E-07	2.2E-07	1.2E-06	1.1E-03
Water Heater (Office)	0.05	0.429	4.5E-07	2.6E-07	1.6E-05	3.9E-04	7.3E-07	1.1E-07	2.4E-07	3.0E-07	8.2E-08	4.5E-07	4.1E-04
Dryer Room Make-up Air Unit	5.775	49.597	5.2E-05	3.0E-05	1.9E-03	4.5E-02	8.4E-05	1.2E-05	2.7E-05	3.5E-05	9.4E-06	5.2E-05	4.7E-02
Tanker Bay Radiant Heaters	0.4	3.435	3.6E-06	2.1E-06	1.3E-04	3.1E-03	5.8E-06	8.6E-07	1.9E-06	2.4E-06	6.5E-07	3.6E-06	3.2E-03
Tank Area Radiant Heaters	0.6	5.153	5.4E-06	3.1E-06	1.9E-04	4.6E-03	8.8E-06	1.3E-06	2.8E-06	3.6E-06	9.8E-07	5.4E-06	4.9E-03
Parts Storage Radiant Heater	0.025	0.215	2.3E-07	1.3E-07	8.1E-06	1.9E-04	3.7E-07	5.4E-08	1.2E-07	1.5E-07	4.1E-08	2.3E-07	2.0E-04
Hotsy Model 1835 (Plant)	0.558	4.792	5.0E-06	2.9E-06	1.8E-04	4.3E-03	8.1E-06	1.2E-06	2.6E-06	3.4E-06	9.1E-07	5.0E-06	4.5E-03
Hi-Efficiency Furnace (Truck Bldg Office)	0.135	1.159	1.2E-06	7.0E-07	4.3E-05	1.0E-03	2.0E-06	2.9E-07	6.4E-07	8.1E-07	2.2E-07	1.2E-06	1.1E-03
Water Heater (Truck Bldg Office)	0.05	0.429	4.5E-07	2.6E-07	1.6E-05	3.9E-04	7.3E-07	1.1E-07	2.4E-07	3.0E-07	8.2E-08	4.5E-07	4.1E-04
Shop Radiant Heaters	0.5	4.294	4.5E-06	2.6E-06	1.6E-04	3.9E-03	7.3E-06	1.1E-06	2.4E-06	3.0E-06	8.2E-07	4.5E-06	4.1E-03
Shop - Hotsy Model 1835		0.000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
Total			7.4E-05	4.2E-05	2.6E-03	6.4E-02	1.2E-04	1.8E-05	3.9E-05	4.9E-05	1.3E-05	7.4E-05	6.7E-02

Emission Factors are from AP-42, Tables 1.4-3 and 1.4-4.

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs are available in the AP-42 tables referenced above.

Total HAPs is the sum of all HAP emission factors listed in AP-42 Tables 1.4-3 and 1.4-4.

Methodology

Heating Value of Natural Gas is assumed to be 1020 MMBtu/MMCF

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,020 MMBtu

Potential Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * (1 ton/2,000 lb)

GHGs:

GHG Mass-Based (ton/yr) = CO2 (ton/yr) + N2O (ton/yr) + CH4 (ton/yr)

$$CO2e = \sum_{i=1}^n GHG_i \cdot GWP_i$$

Where: CO2e = carbon dioxide equivalent (ton/yr)
 GHGi = mass emission rate of each greenhouse gas (ton/yr)
 GWPi = global warming potential for each greenhouse gas
 n = number of greenhouse gases emitted
 GWPs from 40 CFR 98, Subpart A, Table A-1: 1 for CO2, 21 for CH4, 310 for N2O

TSD Appendix A: Emission Calculations
Unpaved Roads

Source Name: Naturally Recycled Proteins of Indiana, LLC
 Source Location: 6800 North 400 East, Montpelier, IN 47359
 Part 70 OP No.: T009-30510-00025
 Reviewer: Laura Spriggs

The following calculations determine the amount of emissions created by unpaved roads, based on AP-42, Ch 13.2.2 (11/2006)

Parameter	PM	PM10	PM2.5	Source/Method
Ef = particulate emission factor (lb/VMT)	8.55	2.31	0.23	= $k \cdot [(s/12)^a] \cdot [(W/3)^b]$, Ch. 13.2.2, eqn (1a)
k = empirical constant (lb/VMT)	4.9	1.5	0.15	Table 13.2.2-2
a = empirical constant	0.7	0.9	0.9	Table 13.2.2-2
b = empirical constant	0.45	0.45	0.45	Table 13.2.2-2
s = surface material silt content (%)	6.4	6.4	6.4	Table 13.2.2-1 (for MSW landfills)
W = mean weight of vehicles traveling the road (tons)	27.50	27.5	27.5	See estimate below
VMT/yr = vehicle miles traveled per year	4051.3	4051.3	4051.3	See estimate below
PTE = Potential to Emit (ton/yr)	17.32	4.68	0.47	= Ef (lb/VMT) x VMT/yr x (1 ton/2000 lb)
Control Efficiency = for water program	50%	50%	50%	
Controlled PTE =	8.66	2.34	0.23	= PTE x (1 - Control Efficiency)

Methodology

All raw materials delivered and all of the finished product shipped will be transported by semi-tank wagon or semi-trailer.

Incoming raw material trucks and outgoing product trucks (full): 40 tons
 Outgoing raw material trucks and ingoing product trucks (empty): 15 tons
 Average truck weight: 27.5 tons = (40 + 15) / 2
 Haul road length (one-way): 0.205 miles

VMT Estimate

Each of the 2 dryers can handle 8.1 tons/hr of wet material input, so assume that the incoming weight is based on this:

Inbound Materials = 141912 ton/yr = (8.1 ton/hr/dryer) x (2 dryers) x (8760 hr/yr)

Each of the 2 dryers can output 6.0 tons/hr of dry material, so assume that the outgoing weight is based on this:

Outbound Materials = 105120 ton/yr = (6.0 ton/hr/dryer) x (2 dryers) x (8760 hr/yr)

Number of truck loads to handle inbound materials: 5676.48 loads/yr = Inbound materials (ton/yr) / (full truck wt (ton) - empty truck wt (ton))

Number of truck loads to handle outbound materials: 4204.8 loads/yr = Outbound materials (ton/yr) / (full truck wt (ton) - empty truck wt (ton))

Total truck trips: 19762.56 trips/yr = Inbound material loads x 2 + Outbound material loads x 2
 (trips are doubled to account for full truck in/empty truck out and empty truck in/full truck out)

Total VMT 4051.325 VMT/yr = Total truck trips/yr x 0.41/2 miles/truck trip

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

TSD Appendix B – State BACT Analysis
For a New Source Construction and Part 70 Operating Permit

Source Background and Description

Source Name:	Naturally Recycled Proteins of Indiana, LLC
Source Location:	6800 North 400 East, Montpelier, Indiana 47359
County:	Blackford
SIC Code:	2047
Operation Permit No.:	T009-30510-00025
Permit Reviewer:	Laura Spriggs

Proposed Project

On May 5, 2011, Naturally Recycled Proteins of Indiana, LLC submitted an application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a New Source Construction and Part 70 Operating Permit to construct and operate a high-protein pet food flavoring manufacturing facility to be located at 6800 North 400 East, Montpelier, Indiana.

The proposed operation consists of the following emission units:

- (a) Two (2) solid raw material (corn gluten) hammermills, identified as EP3-1 and EP3-2, approved in 2011 for construction, each with a maximum capacity of 3.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.
- (b) Two (2) direct, natural gas fired materials dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.
- (c) One (1) dried product hammermill, identified as EP3-3, approved in 2011 for construction, with a maximum capacity of 12.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.

Requirement for State Best Available Control Technology (BACT)

Pursuant to 326 IAC 8-1-6, new facilities (as of January 1, 1980) that have potential VOC emissions of twenty-five (25) tons or more per year that are not otherwise regulated by another provision of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56, shall reduce VOC emissions using best available control technology (BACT).

The two (2) proposed dryers each have potential VOC emissions greater than twenty-five (25) tons per year and are not otherwise regulated by another provision of 326 IAC 8, 326 IAC 20-48, or 326 IAC 20-56. Therefore, these dryers are subject to State BACT requirements under 326 IAC 8-1-6.

Summary of the Best Available Control Technology (BACT) Process

Best Available Control Technology (BACT) is defined as "an emissions limitation, including a visible emissions standard, based upon the maximum degree of reduction for each regulated NSR pollutant that would be emitted from any proposed major stationary source or major modification, that the commissioner, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for the source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of the pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Part 60 and 40 CFR Part 61. If the commissioner determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard not feasible, a design, equipment, work practice, operational standard, or combination thereof may be prescribed instead to satisfy the requirements for the application of best available control technology. The standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of the design, equipment, work practice, or operation and shall provide for compliance by means that achieve equivalent results."

Federal guidance on BACT requires an evaluation that follows a "top down" process, consisting of five (5) steps. The Office of Air Quality (OAQ) makes BACT determinations by following the five (5) steps as outlined below.

Step 1: Identify Potential Control Technologies

The first step is to identify potentially "available" control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit and the regulated pollutant under evaluation. The list should include lowest achievable emission rate (LAER) technologies, innovative technologies, and controls applied to similar source categories. There is no requirement in the State or Federal regulations to require innovative control to be used as BACT.

Step 2: Eliminate Technically Infeasible Options

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based upon physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Innovative controls are normally given a waiver from the BACT requirements due to the uncertainty of actual control efficiency. Based upon this, the OAQ will not evaluate or require any innovative controls for this BACT analysis. Only available and proven control technologies are evaluated. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of control effectiveness, expected emission rate, expected emission reduction,

and environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except for the environmental analyses.

Step 4: Evaluate the Most Effective Controls and Document the Results

The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based upon adverse energy, environmental, or economic impacts.

Step 5: Select BACT

The fifth and final step is to select as BACT the most effective of the remaining technologies under consideration for each pollutant of concern. For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The permitting agency has to choose the most stringent limit as BACT unless the applicant demonstrates in a convincing manner why that limit is not feasible. The final BACT determination would be the technology with the most stringent corresponding limit that is economically feasible. BACT must, at a minimum, be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

This BACT determination is based upon the following information:

- (1) The EPA RACT/BACT/LAER (RBLCL) Clearinghouse;
- (2) EPA and State air quality permits;
- (3) Communications with control device equipment manufacturers; and
- (4) Technical books and articles.

VOC BACT - Product Dryers

Naturally Recycled Proteins of Indiana, LLC proposes to conduct operations that consist of high-protein pet food flavoring manufacturing. A liquid protein source is blended with corn gluten and fed to one (1) of two (2) dryers. Each direct-fired dryer has an input capacity of 8.1 tons per hour of mixed raw material and dries the mixture to a maximum production rate of 6.0 tons per hour. Each dryer is fired by natural gas with a maximum heat input capacity of 15 MMBtu/hr. The exhaust from the dryers is expected to contain particulate and VOC is estimated to be present at about 30 ppmv. VOCs are a result of the organic nature of the product being dried as well as due to the natural gas combustion.

Step 1: Identify Potential Control Technologies

There are two general categories of control technologies for volatile organic compounds (VOCs): destruction processes and reclamation processes. Destruction technologies reduce the VOC concentration by high temperature oxidation into carbon dioxide and water vapor. Reclamation is

the capture of VOCs for reuse or disposal. These are discussed in more detail below.

Destruction Control Methods

The destruction of organic compounds usually requires temperatures ranging from 1200°F to 2200°F for direct thermal oxidizers or 600°F to 1200°F for catalytic systems. Combustion temperature depends on the chemical composition and the desired destruction efficiency. Carbon dioxide and water vapor are the typical products of complete combustion. Turbulent mixing and combustion chamber retention times of 0.5 to 1.0 seconds are needed to obtain high destruction efficiencies.

Fume oxidizers typically need supplemental fuel. Concentrated VOC streams with high heat contents obviously require less supplementary fuel than more dilute streams. VOC streams sometimes have a heat content high enough to be self-sustaining, but a supplemental fuel-firing rate equal to about 5% of the total oxidizer heat input is usually needed to stabilize the burner flame. Natural gas is the most common fuel for VOC oxidizers, but fuel oil is an option in some circumstances.

Destruction control methods include:

Thermal Oxidation

Thermal Oxidation is a process by which volatile organic compounds are destroyed through oxidation at very high temperatures (greater than 1400 °F). An efficient thermal oxidizer design must provide adequate residence time for complete combustion, sufficiently high temperatures for VOC destruction, and adequate velocities to ensure proper mixing without quenching combustion. Natural gas is required to ignite the flue gas mixtures and maintain combustion temperatures. The heat given off in the oxidation reaction is returned to the system to minimize fuel costs. The two main methods in which the heat is returned to the system are categorized as regenerative and recuperative thermal oxidation processes.

Regenerative thermal oxidation uses certain ceramic beds to capture heat from the combustion gases. As a ceramic bed reaches combustion temperatures, the bed is used to preheat the incoming gas stream while the new ceramic bed is used to capture heat within the exhaust gases.

Recuperative thermal oxidation uses a simple heat exchanger to recover heat within the exhaust gases and preheat the inlet gases. In some systems, a concentrator is used prior to the thermal oxidizer inlet in order to concentrate the incoming gases such that less volume of gas is routed to the thermal oxidizer. Concentrators are useful when the volume of incoming gas is large but the VOC concentration is low.

Thermal oxidizers can achieve 95-99.99+% VOC control efficiency and can be used over a wide range of organic vapor concentrations, but perform best at inlet concentrations of around 1,500-3,000 ppmv and are better suited for gas streams with low variability in air flow. While thermal oxidation provides efficient VOC control, other pollutants such as nitrogen oxides and carbon monoxide are formed from the combustion process.

Catalytic Oxidation

Catalytic oxidation is a process in which volatile organic compounds are destroyed through oxidation at a much lower temperature (550 °F) than thermal oxidation. In a catalytic oxidizer, a catalyst is used to lower the activation energy for oxidation so that the oxidation reaction occurs at a much lower temperature. When a preheated gas stream is passed through a catalytic oxidizer, the catalyst bed initiates and promotes the oxidation of the VOC without being permanently altered itself. However, steps must be taken to ensure complete combustion. The types of catalysts used include platinum, platinum alloys, copper chromate, copper oxide, chromium, manganese, and nickel.

Catalytic oxidizers may use regenerative or recuperative processes to reuse waste heat to preheat the incoming gas stream. Catalytic oxidizers may also use a concentrator to concentrate the inlet gas stream, thereby reducing the energy requirements. Depending on the oxidizer design, VOC control efficiencies of 90-99% can be achieved. Catalytic oxidation is best suited to systems with lower exhaust volumes, when there is little variation in the type and concentration of VOC, and where fouling contaminants such as silicone, sulfur, heavy hydrocarbons, and particulates are not present. The lower combustion temperature means that less supplemental fuel is required, so combustion emissions are potentially lower than with thermal oxidation.

Flares

Flaring is used to control VOC emissions by piping VOCs to a remote, usually elevated location and burning them in a flame using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (> 98%) VOC destruction. Flares can be used to control almost any VOC stream, and can typically handle large fluctuations in VOC concentration, flow rate, heating value, and inert species content. While flares are designed to eliminate waste gas streams, they can cause safety and operational problems and the exhaust stream concentration must be high enough to sustain combustion. They can be a source of SO_x, NO_x, and CO and are not recommended to treat waste streams with halogenated compounds.

Reclamation Control Methods

Organic compounds may be reclaimed by one of three possible methods; adsorption, absorption (scrubbing), or condensation. In general, the organic compounds are separated from the emission stream and reclaimed for reuse or disposal. Depending on the nature of the contaminant and the inlet concentration of the emission stream, recovery technologies can reach efficiencies of 98%.

Reclamation control methods include:

Adsorption

Adsorption is a surface phenomenon where attraction between carbon and VOC molecules binds the pollutants to the carbon surface. Both carbon and VOC are chemically intact after adsorption. The VOCs may be removed or desorbed from the carbon and reclaimed or destroyed. Adsorption can be used for relatively low VOC exhaust streams. Industrial applications of adsorption systems include control for dry cleaning, degreasing, paint spraying, solvent extraction, metal foil coating, paper coating, plastic film coating, printing, pharmaceuticals, rubber, linoleum, and transparent wrapping. Particulate matter present in gas streams can reduce adsorber efficiency, increase pressure drop, and eventually plug the bed. Most industrial adsorption systems use some type of particulate matter pre-treatment. In general adsorption decreases with increasing temperatures, relative humidity greater than 50% can reduce carbon capacity, and entrained liquid can cause operating problems. VOC removal efficiencies of 95-99% can be achieved.

Absorption

Absorption is a unit operation where components of a gas phase mixture (pollutants) are selectively transferred to a relatively nonvolatile liquid, usually water. Sometimes, organic liquids, such as mineral oil or non volatile hydrocarbons, are suitable absorption solvents. The choice of solvent depends on cost and the solubility of the pollutant in the solvent. Absorption involves direct contact between the gas and liquid streams in wet scrubbers. Absorption is commonly used to recover products or purify gas streams that have high concentrations of organic compounds. The scrubbing liquid will contain the dissolved VOC and therefore, must be properly disposed of or treated. VOC removal

efficiencies may be in the 90-99+% range.

Condensation

Condensation is the separation of VOCs from an emission stream through a phase change, by either increasing the system pressure or, more commonly, lowering the system temperature below the dew point of the VOC vapor. When condensers are used for air pollution control, they usually operate at the pressure of the emission stream, and typically require a refrigeration unit to obtain the temperature necessary to condense the VOCs from the emission stream. These systems are frequently used prior to other control devices (e.g., oxidizers or absorbers) to remove components that may be corrosive or damaging to other parts of the system. Refrigerated condensers are used as air pollution control devices for treating emission streams with high VOC concentrations (usually > 5,000 ppmv). Some industrial applications where refrigerated condensers are used include the dry cleaning industry, degreasers using VOC or halogenated solvents, transfer of volatile organic liquid or petroleum products, and vapors from storage vessels. VOC removal efficiencies may be in the 90-99% range.

Combination Control Methods

In some cases, a combination of control technologies offers the most efficient and cost effective VOC control.

The combination of carbon adsorption with recuperative thermal incineration is available from several vendors. This system concentrates the VOC stream by using carbon adsorption to remove low concentration VOCs in an emission stream and then uses a lower volume of hot air, commonly one-tenth the original flow, to desorb the pollutants. A recuperative incinerator for destroying pollutants in the concentrated stream is much smaller and has lower supplemental fuel requirements than an incinerator sized for the full emission stream volume.

Absorption systems can also be used to concentrate emission streams to reduce the size of destruction equipment. The concentration effect is not as extreme as with carbon adsorption; a concentrated exhaust stream one quarter the volume of the inlet stream seems to be the practical limit. Absorption concentrators are typically suited for batch processes or to equalize pollutant concentrations in a variable stream. The physical characteristics that drive the absorption of pollutants into a liquid also limit the opportunity to remove those pollutants from the liquid stream.

Innovative Technologies

Review of the literature indicates that other technologies may destroy VOC pollutants.

Biofilters, either outdoor piles similar to compost piles or sophisticated installations involving fixed film on granular activated carbon substrates, appear to work, although such systems are large and require considerable space. Systems applying ultraviolet radiation, either with a titanium dioxide catalyst or in combination with hydrogen peroxide, also show promise.

Step 2: Eliminate Technically Infeasible Options

Catalytic Oxidation

Catalytic oxidation is an inappropriate control for this application because particulate matter entrained in the air stream can easily compromise the catalyst bed, which relies on surface area contact to react with the gas stream. The efficiency of the catalyst would be reduced by masking the surface area as it plugged with particulate. Additionally, the catalyst can become compromised by reactions with other materials entrained within the gas stream, such as sulfur, that react with the noble metals used in the catalytic reaction. In addition, the volumetric flow rate and concentration of combustibles in the gas flowing to the catalytic incinerator should be

constant for optimal operation. Large fluctuations in the flow rate will cause the conversion of VOCs to fluctuate also. As the dryer airflows will need to be adjusted to maintain dryer zone temperatures, these types of fluctuations may be possible. Therefore, catalytic oxidation has been determined to be technically infeasible for the product dryers at NRP and will no longer be considered in this evaluation.

Flares

While flares can generally handle large fluctuations in gas flow rate and VOC concentration, they are primarily used for controlling large volumes of pollutant resulting from upset or emergency conditions. They are also best employed for waste gases with high heating values that can sustain combustion. The Permittee has estimated that the heat content of the dryer exhaust is 0.04 Btu/scf, which is significantly less than the required heat content of 300 Btu/scf to sustain a stable flame. Therefore, the flare would require a significant amount of auxiliary fuel (approximately 1,936 MMBtu/hr of natural gas) to adequately oxidize the waste gas VOC. The amount of auxiliary fuel needed to sustain the flare for controlling VOCs from the dryer makes it not technically or economically feasible for this application.

Carbon Adsorption

Carbon adsorption is not as efficient at controlling highly volatile organics (materials with molecular weights less than 45) because these materials do not readily adsorb onto carbon or slow volatile organics (materials with molecular weights greater than 130). While the entire molecular weight characterization of VOC species has not yet been determined, it is conceivable that substances with weights below 45 and greater than 130 may be present. Similar to catalytic oxidation, carbon adsorption cannot tolerate air streams with much particulate present because of issues with plugging that lead to reduced surface area for adsorption. In addition, carbon adsorption does not operate well for exhaust streams with humidity levels greater than 50%. The exhaust from the dryers is expected to have relatively high humidity levels. Therefore, carbon adsorption has been determined to be technically infeasible for the product dryers at NRP and will no longer be considered in this evaluation.

Condensers

Condensers are used for applications with relatively high VOC concentrations (> 5000 ppmv). The exhaust from the dryers is estimated to have VOC concentrations in the 30 ppmv range. Therefore, condensers have been determined to be technically infeasible for the product dryers at NRP and will no longer be considered in this evaluation.

Innovative Technologies

None of the innovative applications are well documented, with little information on process costs. Thus, none of the novel technologies can be considered commercially available.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The control technologies that are seen as technically feasible for controlling VOC emissions from the product dryers include recuperative thermal oxidation, regenerative thermal oxidation, and absorption. It should be noted that for each of these controls, lower control efficiencies are realized with lower inlet concentrations.

Rank	Control	Control Efficiency
1	Recuperative Thermal Oxidizer	98-99+%
2	Regenerative Thermal Oxidizer	95-99%
3	Scrubber	90-99%

Step 4: Evaluate the Most Effective Controls and Document the Results

The high protein pet food manufacturing process that NRP proposes to operate is proprietary,

patented and protected by three US patents, and has no other competitors. No other operation of its type exists anywhere else in the US except for another NRP facility in Iowa, which operates without any air pollution control devices.

A search of the USEPA RACT/BACT/LAER Clearinghouse (RBLC) did not result in any matching facilities or operations. However, the RBLC does contain entries for dryers from processes at corn wet mills, ethanol production facilities, and soybean processing facilities, a wheat processing facility, and an animal feed supplement producer. While these operations may not be completely comparable, they provide an overview of how some agricultural dryers are controlled.

Facility: County, State	RBL ID/Permit # (Issuance Date)	Process	Pollutant: Control, Emission Limits	Control Efficiency	Basis
Naturally Recycled Proteins of Indiana, LLC: Blackford, IN	Proposed BACT	Product Dryers (2 @ 15 MMBtu/hr and 6.0 ton/hr output each)	VOC: No Control, 5.125 tons per month	N/A	
ReConserve, Inc.: Vigo, IN (poultry feed manufacturing)	F167-27594-00086 (10/27/2009)	Rotary Dryer (18 MMBtu/hr, natural gas)	VOC: No Control, Operation of less than 3,500 hours per 12 consecutive months, 1.02 lb VOC/ton raw material input	N/A	State BACT
Custom Trading & Blending, Inc.: Vigo, IN (animal feed production)	F167-27187-00133 (5/7/2009)	Rotary Dryer (10 MMBtu/hr, natural gas)	VOC: No Control, Operation of less than 2,860 hours per 12 consecutive months, natural gas heat input limit of 8.5 MMBtu/hr (monthly average), 1.75 lb VOC/ton raw material	N/A	State BACT
Tate & Lyle Ingredients Americas, Inc.: Webster, IA (corn wet mill)	IA-0095/PROJECT 08-126 (09/19/2008)	Starch Dryer (Direct-Fired, 25 MMBtu/hr, natural gas/biogas)	VOC: Wet Scrubber, 0.005 lb/MMBtu average of three stack test runs	NI	BACT-PSD
Tate & Lyle Ingredients Americas, Inc.: Webster, IA (corn wet mill)	IA-0095/PROJECT 08-126 (09/19/2008)	Gluten Meal Dryer and Non-Condensable Vent System	VOC: Wet Scrubber and Regenerative Thermal Oxidizer, 98% reduction average of three stack test runs, 1.79 lb/hr average of three stack test runs	98%	BACT-PSD
Tate & Lyle Ingredients Americas, Inc.: Webster, IA (corn wet mill)	IA-0095/PROJECT 08-126 (09/19/2008)	Biogas/ Natural Gas Boiler and Fiber Dryer Process Heaters (2 dryers @ 50 MMBtu/hr each, biogas)	VOC: None Indicated, 0.005 lb/MMBtu average of three stack test runs	NI	BACT-PSD
ADM Corn Processing - Cedar Rapids: Linn, IA (corn wet mill, corn dry mill, boilerhouse)	IA-0088/57-01-080 (06/29/2007)	Germ Dryers and Coolers (4 germ dryers @ 15 ton/hr each and 2 coolers @ 15 ton/hr each)	VOC: Wet Scrubber, 7.5 ppmvd average of 3 test runs, 8.32 lb/hr average of 3 test runs	NI	BACT-PSD
Southwest Iowa Renewable Energy: Pottawattamie, IA (ethanol production facility)	IA-0092/06-A-571P THRU 06-A-590P (04/19/2007)	DDGS Dryers + Distillation (6 dryers @ 60 ton/hr, natural gas)	VOC: Thermal Oxidizer 18 MMBtu/hr, 5.11 lb/hr 1 hour, 98% reduction or 10 ppmv 1 hour	98%	BACT-PSD
Tate & Lyle, Sagamore: Tippecanoe, IN (corn wet milling)	157-22808-00003 (12/20/2006)	Feed Dryer, Meal Dryer, Germ Dryer	VOC: Scrubber followed by RTO, 3.16 lb/hr	95% if inlet VOC is more than 100 lb/hr, else 10 ppmv	BACT-PSD

Facility: County, State	RBL ID/Permit # (Issuance Date)	Process	Pollutant: Control, Emission Limits	Control Efficiency	Basis
Cargill, Inc.: Washington County, NE (wet corn milling and ethanol production)	NE-0037/CP06-0008 (09/08/2006)	Gluten Flash Dryer	VOC: Wet Scrubber, 21.92 lb/hr 3-hr or test method average	NI	BACT-PSD
Cargill, Inc.: Washington County, NE (wet corn milling and ethanol production)	NE-0037/CP06-0008 (09/08/2006)	Germ Steam Tube Dryers	VOC: Thermal Oxidizer, 0.86 lb/hr 3-hr or test method average	NI	BACT-PSD
Cargill, Inc.: Washington County, NE (wet corn milling and ethanol production)	NE-0037/CP06-0008 (09/08/2006)	Fiber Steam Tube Dryer	VOC: Thermal Oxidizer, 3.1 lb/hr 3 hr or test method average	NI	BACT-PSD
Golden Grain Energy: Cerro Gordo, IA (fuel ethanol plant, corn dry mill)	IA-0082/03-A-600P-S2 (04/19/2006)	DDGS Dryer (2 @ 42 MMBtu/hr each, Natural Gas)	VOC: 125 MMBtu/hr Thermal Oxidizer, 2.75 lb/hr 3 hour average, 98% percent reduction	98%	BACT-PSD
MGP Ingredients - Pekin: Tazewell, IL (produces wheat gluten, wheat starch, beverage alcohol, fuel ethanol, byproduct animal feed)	IL-0105/4060009 (01/25/2006)	Feed Dryer D6500	VOC: Eco-Dry System or Other Comparable System that Passes Exhaust through the Dryer, 0.12 lb/MMBtu 3-hour average	NI	BACT-PSD
Tate & Lyle, Sagamore: Tippecanoe, IN (corn wet milling)	157-20671-00003 (9/13/2005)	Fiber Pre-Dryer, Germ Dryer, Gluten Flash Dryer, and Feed Dryers	VOC: Scrubber followed by RTO, 4.29 lb/hr	95% if inlet VOC is more than 100 lb/hr, else 10 ppmv	BACT-PSD
Cargill - Blair Plant: Washington, NE (wet corn milling, ethanol, fructose, corn oil, gluten meal, other corn by-products)	NE-0024/57902CS6 (06/22/2004)	Gluten Flash Dryer (45 MMBtu/hr, natural gas)	VOC: None Indicated, 0.126 lb/hr max	N/A	Other Case-by-Case
Cargill - Blair Plant: Washington, NE (wet corn milling, ethanol, fructose, corn oil, gluten meal, other corn by-products)	NE-0024/57902CS6 (06/22/2004)	Germ Dryer (50 MMBtu/hr, natural gas)	VOC: None Indicated, 0.14 lb/hr	N/A	Other Case-by-Case
Ace Ethanol - Stanley: Chippewa, WI (ethanol production)	WI-0207/03-DCF-184 (01/21/2004)	DDGS Dryer, Cooling Cyclone, P40, P41, P42 (55 MMBtu/hr and 70 MMBtu/hr, natural gas, 13.75 ton/hr each)	VOC: Thermal Oxidizer (Regenerative), 5 ppm as propane, 2.7 lb/hr	96%	BACT-PSD
Cargill Oilseeds Division: Shelby, OH (soybean meal, oil, white flakes, and soy isolate protein production)	OH-0282/05-12183 (11/28/2003)	Isolate Plant Soy Protein Spray Dryer (natural gas, 5,600 lb/hr soy)	VOC: None Indicated, 0.63 lb/hr , 2.75 ton/rolling 12-mo, 0.0055 lb/MMBtu	N/A	BACT-PSD
Cargill Oilseeds Division: Shelby, OH (soybean meal, oil, white flakes, and soy isolate protein production)	OH-0282/05-12183 (11/28/2003)	Spent Flake Dryer (natural gas, 4,400 lb/hr)	VOC: None Indicated, 0.33 lb/hr , 1.45 ton/rolling 12-mo, 0.0055 lb/MMBtu	N/A	BACT-PSD
Archer Daniels Midland Company: Macon, IL (corn wet mill)	IL-0098/3100060 (10/27/2003)	Gluten Dryer (natural gas)	VOC: Internal Thermal Oxidation, 30 ppm, 0.1 lb/MMBtu	NI	BACT-PSD

Facility: County, State	RBLC ID/Permit # (Issuance Date)	Process	Pollutant: Control, Emission Limits	Control Efficiency	Basis
Endres Processing Ohio, LLC: Wyandot, OH (animal feed supplement producer)	OH-0283/03-13687 (02/04/2003)	Animal Feed Dryers and Processing Lines (Two Systems) (sawdust, 126,409 ton/yr)	VOC: Regenerative Thermal Oxidizer Using Natural Gas, 13.11 lb/hr from both lines and dryers, 35.83 ton/yr rolling 12-mo from both lines and dryers	95%	BACT-PSD
Archer Daniels Midland Company: Macon, IL (corn wet mill)	IL-0087/99120082 (12/27/2002)	Wet Corn Mill Feed Dryer #7 (natural gas)	VOC: Regenerative Thermal Oxidizer, 10 ppm, 54 ton/yr	95%	BACT-PSD
Michigan Ethanol LLC: Tuscola, MI (ethanol production)	MI-0359/210-01 (11/04/2002)	Dryers (DDGS dryers, natural gas)	VOC: Thermal Oxidizer, 5 lb/hr	95%	Other Case-by-Case
Central Soya Company Inc.: Huron, OH (soybean extraction)	OH-0251/03-13369 (11/29/2001)	Dryer, Soy Protein Concentrate - Combustion (37 MMBtu/hr, natural gas)	VOC: None Indicated, 0.1 lb/hr, 0.44 ton/yr	N/A	BACT-PSD

The BACT determinations summarized in the table show that some dryer processes are not controlled for VOC emissions, and some are controlled by wet scrubbers and/or thermal oxidation. This further indicates that thermal oxidation and/or wet scrubbers are technically feasible for the drying process proposed by NRP.

NRP has submitted economic analyses for a recuperative thermal oxidizer, a regenerative thermal oxidizer, and a scrubber system. The estimated air flow for the drying section is 48,000 acfm and the estimated air flow for the cooling section is 40,000 acfm, for a total of 88,000 acfm. One regenerative thermal oxidizer or one recuperative thermal oxidizer would be needed to control VOC emissions from the dryers. Two scrubbers would be needed to control emissions from the dryers: one for the drying section and one for the cooling section. Below is a summary of the economic analyses. The detailed economic analyses are included at the end of the BACT determination.

Summary of Economic Analyses for VOC Control of Product Dryers				
Control	Airflow (acfm)	Total Annualized Cost	Assumed Control	Cost/Ton Pollutant Removed
Recuperative Thermal Oxidizer	88,000	\$ 2,913,886	98%	\$47,709.39
Regenerative Thermal Oxidizer	88,000	\$ 1,653,700	95%	\$27,931.25
Scrubber System	48,000 for Drying Section, 40,000 for Cooling Section	\$ 733,474	90%	\$13,076.75

The economic analyses resulted in cost per ton of pollutant removed values of \$47,709 for the recuperative thermal oxidizer, \$27,931 for the regenerative thermal oxidizer, and \$13,077 for the scrubber system. Furthermore, each control option carries its own environmental impacts cost due to use of natural gas, electricity, and/or water consumption/disposal.

Based upon this review, no control options are found to be technically or economically feasible for controlling VOC emissions from the product dryers proposed by NRP.

Step 5: Select BACT

Pursuant to 326 IAC 8-1-6, the Best Available Control Technology (BACT) for VOC emissions from the two product dryers (EP1 and EP2) shall be no control and VOC emissions shall not exceed 7.11 pounds per hour for each dryer.

Compliance with the BACT limit shall be determined through stack testing as specified in the permit.

Cost Effectiveness for a Recuperative Thermal Oxidizer				
Cost Item	Cost Factor	Cost Factor Multiplier	Cost (\$)	Basis of Costs
Direct Capital Costs:				
Purchased Equipment Costs (PEC):				
Control System and auxiliary equipment (A)			\$ 470,463	Vendor quote - Recuperative Oxidizer + auxiliary equipment
Instrumentation	0.10	A	\$ 47,046	EPA Cost Manual, Table 2.8 *
Taxes	0.03	A	\$ 14,114	
Freight	0.05	A	\$ 23,523	
Total Purchased Equipment Costs (B):			\$ 555,146	
Direct Installation Costs:				
Foundations/Supports	0.08	B	\$ 44,412	EPA Cost Manual, Table 2.8 *
Erection/handling	0.14	B	\$ 77,720	
Electrical	0.04	B	\$ 22,206	
Piping	0.02	B	\$ 11,103	
Insulation	0.01	B	\$ 5,551	
Painting	0.01	B	\$ 5,551	
Total Direct Installation Costs (C):			\$ 166,544	
Site Preparation (SP):			-	Included in (A)
Buildings (Bldg):			-	Included in (A)
Total Direct Capital Costs (DC):			\$ 721,690	= B + C + SP + Bldg
Indirect Installation Costs:				
Engineering	0.10	B	\$ 55,515	EPA Cost Manual, Table 2.8 *
Construction/field expenses	0.05	B	\$ 27,757	
Construction fee	0.10	B	\$ 55,515	
Start-up	0.02	B	\$ 11,103	
Performance Test	0.01	B	\$ 5,551	
Contingencies	0.03	B	\$ 16,654	
Total Indirect Capital Costs (IC):			\$ 172,095	
TOTAL CAPITAL COSTS:			\$ 893,786	= DC + IC
Direct Annual Operating Costs:				
Operating Labor:				
Operator			\$ 10,780	Estimated by the Permittee
Supervision (15% of labor)			\$ 1,617	EPA Cost Manual, Table 2.10
Operating Materials				
Maintenance:				
Maintenance Labor			\$ 11,864	Estimated by the Permittee
Maintenance Materials (100% of labor)			\$ 11,864	EPA Cost Manual, Table 2.10
Utilities:				
Electricity			\$ 148,236	= KW Requirements * Cost / KWH * 8760 hr/yr
KW Requirements		222.1		Estimated by the Permittee
Cost (\$/KWH)		\$0.0762		2009 Average Retail Price for Indiana: http://www.eia.doe.gov
Natural Gas			\$ 2,544,824	= kCF/hr * Cost / kCF * 8760 hr/yr
kCF/hr		54.3		Estimated by the Permittee
Cost (\$/kCF)		\$5.35		2010 Average Natural Gas Price for Industrial Users: http://www.eia.doe.gov
Total Direct Operating Costs (DOC):			\$ 2,729,184	
Indirect Operating (fixed) Annual Costs:				
Overhead	60% of O & M labor/materials		\$ 21,675	EPA Cost Manual, Table 2.10
Administrative Charges	2% of total capital costs		\$ 17,876	
Property Tax	1% of total capital costs		\$ 8,938	
Insurance	1% of total capital costs		\$ 8,938	
Capital Recovery CRF=	0.1424	7% for 10 years	\$ 127,275	
Total Indirect Operating Costs (IOC):			\$ 184,701	
TOTAL ANNUALIZED COSTS:			\$ 2,913,886	= DOC + IOC
Uncontrolled Emissions Rate (tons/year) =			62.32	
Control System Efficiency =			98.0%	
Controlled Emissions Rate (tons/year) =			1.25	= Uncontrolled Rate * (1 - Control Efficiency)
VOC Emissions Controlled (tons/year) =			61.08	= Uncontrolled Rate - Controlled Rate
Cost (\$/ton) =			\$47,709	= Total Annualized Cost / VOC Emissions Controlled

*EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

88,000 acfm, 75,922 scfm

70% heat recovery assumed

Cost Effectiveness for a Regenerative Thermal Oxidizer				
Cost Item	Cost Factor	Cost Factor Multiplier	Cost (\$)	Basis of Costs
Direct Capital Costs:				
Purchased Equipment Costs (PEC):				
Control System and auxiliary equipment (A)			\$ 1,459,230	Vendor quote - RTO + auxiliary equipment
Instrumentation	0.10	A	\$ 145,923	EPA Cost Manual, Table 2.8 *
Taxes	0.03	A	\$ 43,777	
Freight	0.05	A	\$ 72,962	
Total Purchased Equipment Costs (B):			\$ 1,721,891	
Direct Installation Costs:				
Foundations/Supports	0.08	B	\$ 137,751	EPA Cost Manual, Table 2.8 *
Erection/handling	0.14	B	\$ 241,065	
Electrical	0.04	B	\$ 68,876	
Piping	0.02	B	\$ 34,438	
Insulation	0.01	B	\$ 17,219	
Painting	0.01	B	\$ 17,219	
Total Direct Installation Costs (C):			\$ 516,567	
Site Preparation (SP):			-	Included in (A)
Buildings (Bldg):			-	Included in (A)
Total Direct Capital Costs (DC):			\$ 2,238,459	= B + C + SP + Bldg
Indirect Installation Costs:				
Engineering	0.10	B	\$ 172,189	EPA Cost Manual, Table 2.8 *
Construction/field expenses	0.05	B	\$ 86,095	
Construction fee	0.10	B	\$ 172,189	
Start-up	0.02	B	\$ 34,438	
Performance Test	0.01	B	\$ 17,219	
Contingencies	0.03	B	\$ 51,657	
Total Indirect Capital Costs (IC):			\$ 533,786	
TOTAL CAPITAL COSTS:			\$ 2,772,245	= DC + IC
Direct Annual Operating Costs:				
Operating Labor:				
Operator			\$ 10,780	Estimated by the Permittee
Supervision (15% of labor)			\$ 1,617	EPA Cost Manual, Table 2.10
Operating Materials				
Maintenance:				
Maintenance Labor			\$ 11,864	Estimated by the Permittee
Maintenance Materials (100% of labor)			\$ 11,864	EPA Cost Manual, Table 2.10
Utilities:				
Electricity			\$ 148,236	= KW Requirements * Cost / KWH * 8760 hr/yr
KW Requirements		222.1		Estimated by the Permittee
Cost (\$/KWH)		\$0.0762		2009 Average Retail Price for Indiana: http://www.eia.doe.gov
Natural Gas			\$ 942,007	= kCF/hr * Cost / kCF * 8760 hr/yr
kCF/hr		20.1		Estimated by the Permittee
Cost (\$/kCF)		\$5.35		2010 Average Natural Gas Price for Industrial Users: http://www.eia.doe.gov
Total Direct Operating Costs (DOC):			\$ 1,126,367	
Indirect Operating (fixed) Annual Costs:				
Overhead	60% of O & M labor/materials		\$ 21,675	EPA Cost Manual, Table 2.10
Administrative Charges	2% of total capital costs		\$ 55,445	
Property Tax	1% of total capital costs		\$ 27,722	
Insurance	1% of total capital costs		\$ 27,722	
Capital Recovery CRF=	0.1424	7% for 10 years	\$ 394,768	
Total Indirect Operating Costs (IOC):			\$ 527,333	
TOTAL ANNUALIZED COSTS:			\$ 1,653,700	= DOC + IOC
Uncontrolled Emissions Rate (tons/year) =			62.32	
Control System Efficiency =			95.0%	
Controlled Emissions Rate (tons/year) =			3.12	= Uncontrolled Rate * (1 - Control Efficiency)
VOC Emissions Controlled (tons/year) =			59.21	= Uncontrolled Rate - Controlled Rate
Cost (\$/ton) =			\$27,931	= Total Annualized Cost / VOC Emissions Controlled

*EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

88,000 acfm, 75,922 scfm
 95% heat recovery assumed

Cost Effectiveness for a Scrubber System					
Cost Item	Cost Factor	Cost Factor Multiplier	40,000 acfm Cooling Section Scrubber Cost (\$)	48,000 acfm Drying Section Scrubber Cost (\$)	Basis of Costs
Direct Capital Costs:					
Purchased Equipment Costs (PEC):					
Control System and auxiliary equipment (A)			\$ 275,000	\$ 287,500	Vendor quote - Venturi Packaged Unit + Auxiliary Costs
Instrumentation	0.10	A	\$ 27,500	\$ 28,750	EPA Cost Manual, Table 2.8 *
Taxes	0.03	A	\$ 8,250	\$ 8,625	
Freight	0.05	A	\$ 13,750	\$ 14,375	
Total Purchased Equipment Costs (B):			\$ 324,500	\$ 339,250	
Direct Installation Costs:					
Foundations/Supports	0.06	B	\$ 19,470	\$ 20,355	EPA Cost Manual, Table 2.8 *
Erection/handling	0.40	B	\$ 129,800	\$ 135,700	
Electrical	0.01	B	\$ 3,245	\$ 3,393	
Piping	0.05	B	\$ 16,225	\$ 16,963	
Insulation	0.03	B	\$ 9,735	\$ 10,178	
Painting	0.01	B	\$ 3,245	\$ 3,393	
Total Direct Installation Costs (C):			\$ 181,720	\$ 189,980	
Site Preparation (SP):					
			-	-	Included in (A)
Buildings (Bldg):					
			-	-	Included in (A)
Total Direct Capital Costs (DC):			\$ 506,220	\$ 529,230	= B + C + SP + Bldg
Indirect Installation Costs:					
Engineering	0.10	B	\$ 32,450	\$ 33,925	EPA Cost Manual, Table 2.8 *
Construction/field expenses	0.10	B	\$ 32,450	\$ 33,925	
Contractor fees	0.10	B	\$ 32,450	\$ 33,925	
Start-up	0.01	B	\$ 3,245	\$ 3,393	
Performance Test	0.01	B	\$ 3,245	\$ 3,393	
Contingencies	0.03	B	\$ 9,735	\$ 10,178	
Total Indirect Capital Costs (IC):			\$ 113,575	\$ 118,738	
TOTAL CAPITAL COSTS:			\$ 619,795	\$ 647,968	= DC + IC
Direct Annual Operating Costs:					
Operating Labor:					
Operator			\$ 43,121	\$ 43,121	Estimated by the Permittee
Supervision (15% of labor)			\$ 6,468	\$ 6,468	EPA Cost Manual, Table 2.9
Operating Materials					
Maintenance:					
Maintenance Labor			\$ 23,729	\$ 23,729	Estimated by the Permittee
Maintenance Materials (100% of labor)			\$ 23,729	\$ 23,729	EPA Cost Manual, Table 2.9
Utilities:					
Electricity			\$ 104,530	\$ 124,441	= KW Requirements * Cost / KWH * 8760 hr/yr
KW Requirements			156.60	186.43	Estimated by the Permittee
Cost (\$/KWH)		\$0.0762			2009 Average Retail Price for Indiana: http://www.eia.doe.gov
Water			\$ 1,682	\$ 2,018	Estimated by the Permittee
Total Direct Operating Costs (DOC):			\$ 203,415	\$ 223,692	
Indirect Operating (fixed) Annual Costs:					
Overhead	60% of O & M labor/materials		\$ 58,228	\$ 58,228	EPA Cost Manual, Table 2.10
Administrative Charges	2% of total capital costs		\$ 12,396	\$ 12,959	
Property Tax	1% of total capital costs		\$ 6,198	\$ 6,480	
Insurance	1% of total capital costs		\$ 6,198	\$ 6,480	
Capital Recovery CRF=	0.1098 7% for 15 years		\$ 68,053	\$ 71,147	
Total Indirect Operating Costs (IOC):			\$ 151,073	\$ 155,293	
TOTAL ANNUALIZED COSTS:			\$ 354,489	\$ 378,986	= DOC + IOC
TOTAL ANNUALIZED COSTS FOR SCRUBBER SYSTEM:			\$ 733,474		
Uncontrolled Emissions Rate (tons/year) =			62.32		
Control System Efficiency =			90.0%		
Controlled Emissions Rate (tons/year) =			6.23		= Uncontrolled Rate * (1 - Control Efficiency)
VOC Emissions Controlled (tons/year) =			56.09		= Uncontrolled Rate - Controlled Rate
Cost (\$/ton) =			\$13,077		= Total Annualized Cost / VOC Emissions Controlled

*EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

* For Direct and Indirect Capital Costs, Cost = Cost Factor * Cost Factor Multiplier

Pressure differential of 20 inches, 8 gallons of water per 1000 acfm at a 5% bleed rate.

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

TSD Appendix C – Case-by-Case MACT Analysis
For a New Source Construction and Part 70 Operating Permit

Source Background and Description

Source Name:	Naturally Recycled Proteins of Indiana, LLC
Source Location:	6800 North 400 East, Montpelier, Indiana 47359
County:	Blackford
SIC Code:	2047
Operation Permit No.:	T009-30510-00025
Permit Reviewer:	Laura Spriggs

Proposed Project

On May 5, 2011, Naturally Recycled Proteins of Indiana, LLC submitted an application to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a New Source Construction and Part 70 Operating Permit to construct and operate a high-protein pet food flavoring manufacturing facility to be located at 6800 North 400 East, Montpelier, Indiana.

The proposed operation consists of the following emission units:

- (a) Two (2) solid raw material hammermills, identified as EP3-1 and EP3-2, approved in 2011 for construction, each with a maximum capacity of 3.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.
- (b) Two (2) direct, natural gas fired materials dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.
- (c) One (1) dried product hammermill, identified as EP3-3, approved in 2011 for construction, with a maximum capacity of 12.0 tons per hour, with particulate emissions controlled by a baghouse, and exhausting internally.

Requirement for Case-by-Case Maximum Achievable Control Technology (MACT) Analysis

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants), any owner or operator that constructs or reconstructs a major source of hazardous air pollutants (HAPs), as defined in 40 CFR 63.41, after July 27, 1997, shall comply with the requirements of 326 IAC 2-4.1 unless the source is specifically regulated, or exempted from regulation, by a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act. The provisions of 326 IAC 2-4.1 are intended to implement Section 112(g) of the Clean Air Act as detailed in 40 CFR 63, Subpart B.

The Permittee has estimated that each of the product dryers has potential VOC emissions of 31.16 tons per year. While, the exact speciation of the VOCs is unknown, a conservative assumption has been made that the VOCs are present as volatile hazardous air pollutants. So

the potential HAP emissions could exceed ten (10) tons per year of a single HAP and/or twenty-five (25) tons per year of total HAPs. Therefore, this source is a major source of HAPs and there is no NESHAP promulgated that covers the product dryers. A case-by-case MACT determination, pursuant to 112(g) of the Clean Air Act is required for the product dryers.

Summary of the Maximum Achievable Control Technology (MACT) Process

Maximum achievable control technology (MACT) emission limitation for new sources means the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emissions of hazardous air pollutants (including a prohibition on such emissions, where achievable) that the Administrator, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by sources in the category or subcategory to which such emission standard applies.

In general, a case-by-case MACT analysis is similar to a BACT analysis. IDEM, OAQ conducts MACT analyses in accordance with USEPA's 2000 document, "Guidelines for MACT Determinations under Section 112(g) Requirements." These guidelines offer a step-by-step process for making a MACT determination, summarized as follows:

- Step 1: Identify the MACT-affected emission unit.
- Step 2: Make a MACT floor finding.
- Step 3: List all available/reasonable applicable control technologies.
- Step 4: Eliminate technically infeasible control technologies.
- Step 5: Determine efficiency of applicable control technologies.
- Step 6: Identify maximum emission reduction control technology.
- Step 7: Conduct an impacts analysis (including costs, non-air quality health and environmental impacts, and energy requirements).
- Step 8: Establish the MACT emission limitation.

The following information resources are available and may be consulted in searching for varied control alternatives for the analyzed emission sources:

- (a) On-line USEPA RACT/BACT/LAER Clearinghouse (RBLC) System
- (b) USEPA/State/Local Air Quality Permits
- (c) Federal/State/Local Permit Engineers
- (d) Control Technology Vendors
- (e) Inspection/Performance Test Reports

Case-by-Case MACT - Product Dryers

Step 1: Identify the MACT-affected emission unit.

The MACT-affected emission units include the two (2) product dryers, described as follows:

Two (2) direct, natural gas fired materials dryers, identified as EP1 and EP2, approved in 2011 for construction, each with a maximum input capacity of 8.1 tons per hour wet material received from the blender, each with a maximum output capacity of 6.0 tons per hour dried material, each with a maximum heat input capacity of 15 MMBtu/hr, with emissions uncontrolled, and exhausting through stacks EP-1 and EP-2.

Step 2: Make a MACT floor finding.

For new sources, the MACT floor is the emission limitation achieved in practice by the best controlled similar source. The high protein pet food manufacturing process that NRP proposes to operate is proprietary, patented and protected by three US patents, and has no other competitors. No other operation of its type exists anywhere else in the US except for another NRP facility in Iowa, which operates without any air pollution control devices. A search of the USEPA RACT/BACT/LAER Clearinghouse (RBLC) did not result in any matching facilities or operations.

The MACT floor is proposed to be no add-on controls to reduce HAP emissions.

Step 3: List all available/reasonable applicable control technologies.

Appendix B to the Technical Support Document includes the 326 IAC 8-1-6 BACT analysis for control of VOCs from the two (2) product dryers. It is assumed that the VOCs are present as VHAPs. Therefore, the analysis of controls for MACT will be the same as for BACT. See Appendix B for details on the control technologies. The available/reasonable applicable control technologies include:

- (a) Thermal oxidation
- (b) Catalytic oxidation
- (c) Flares
- (d) Adsorption
- (e) Absorption
- (f) Condensation
- (g) Combination control

Step 4: Eliminate technically infeasible control technologies.

See Appendix B for details on the technical infeasibility of certain control technologies. The following controls were determined to be technically infeasible for the proposed product dryers:

- (a) Catalytic oxidation
- (b) Flares

- (c) Adsorption
- (d) Condensation

Step 5: Determine efficiency of applicable control technologies.

The control technologies that are seen as technically feasible for controlling VOC emissions from the product dryers include recuperative thermal oxidation, regenerative thermal oxidation, and absorption. It should be noted that for each of these controls, lower control efficiencies are realized with lower inlet concentrations.

Rank	Control	Control Efficiency
1	Recuperative Thermal Oxidizer	98-99+%
2	Regenerative Thermal Oxidizer	95-99%
3	Scrubber	90-99%

Step 6: Identify maximum emission reduction control technology.

The maximum emission reduction control technology is estimated to be recuperative thermal oxidation.

Step 7: Conduct an impacts analysis (including costs, non-air quality health and environmental impacts, and energy requirements).

See Appendix B for detailed economics analyses on the three control technologies that were determined to be technically feasible. Based upon a cost analysis, none of the controls were determined to be economically feasible.

Step 8 Establish the MACT emission limitation.

Pursuant to 326 IAC 2-4.1, MACT for the two (2) product dryers (EP1 and EP2) shall be no control and total VHAP emissions shall not exceed 7.11 pounds per hour for each dryer.

Compliance with the MACT limit shall be determined through stack testing as specified in the permit.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

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

TO: Alan Koch
Naturally Recycled Proteins of Indiana, LLC
PO Box 394
Johnston, IA 50131

DATE: August 19, 2011

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

SUBJECT: Final Decision
New Source Construction & Part 70 Operating Permit
009-30510-00025

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
James Rickun – James S. Rickun Environmental Consulting
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

August 19, 2011

TO: Montpelier Public Library

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

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

Applicant Name: Naturally Recycled Proteins of Indiana, LLC
Permit Number: 009-30510-00025

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

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

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	GHOTOPP 8/19/2011 Naturally Recycled Proteins of Indiana, LLC 009-30510-00025 Final		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Alan Koch Naturally Recycled Proteins of Indiana, LLC PO Box 394 Johnston IA 50131-0394 (Source CAATS) via confirmed delivery										
2		Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
3		Blackford County Commissioners 110 West Washington Street Hartford City IN 47348 (Local Official)										
4		Blackford County Health Department 506 E. Van Cleve Street Hartford City IN 47348-1846 (Health Department)										
5		Ms. Mary Shipley 10968 E 100 S Marion IN 46953 (Affected Party)										
6		Glen & Judith Van Camp 6725 N. Blackford Ave Montpelier IN 47359 (Affected Party)										
7		Montpelier Harrison Twp Public Library 301 S Main St Montpelier IN 47359-1428 (Library)										
8		Daryl & Lois Hoffman 7750 N. CR 75 E Lizton IN 46149 (Affected Party)										
9		James Rickun James S. Rickun Environmental Consulting 4933 Black Oak Drive Madison WI 53711-4373 (Consultant)										
10		Mr. Dan Baughey 1610 W Water Street #D Hartford City IN 47348 (Affected Party)										
11		Montpelier City Council and Mayors Office 300 W. Huntington St. Montpelier IN 47359 (Local Official)										
12		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)										
13		Mr. Rob Cleveland Blackford County EDC, Executive Director 121 N. High Street Hartford City IN 47348 (Affected Party)										
14		Mr. Jim McPherson City of Montpelier, Mayor 300 W. Huntington St. Montpelier IN 47359 (Affected Party)										
15		Cathie McCammon 3779 East State Rd 18 Montpelier IN 47359 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
14			

Mail Code 61-53

IDEM Staff	GHOTOPP 8/19/2011 Naturally Recycled Proteins of Indiana, LLC 009-30510-00025 Final		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	 Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Shirley Glessner 6827 N. Blackford Ave Montpelier IN 47359 (Affected Party)										
2		Tim Parker 512 S. Main Street Montpelier IN 47359 (Affected Party)										
3		Wendell & Brenda Bonewit 6891 N 400 E Montpelier IN 47359 (Affected Party)										
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
3			