INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Michael R. Pence
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: April 18, 2013

RE: Eli Lilly and Company / 165-32527-00009

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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Mr. Don Blair
Eli Lilly and Company - Clinton Laboratories
10500 South State Road 63
Clinton, IN 47842

April 18, 2013

Re: 165-32527-00009
Significant Source Modification to
Part 70 Permit Renewal No.: T 165-27283-00009

Dear Mr. Blair:

Eli Lilly and Company - Clinton Laboratories was issued a Part 70 Operating Permit Renewal on October 16, 2009 for a pharmaceutical manufacturing plant. A letter requesting changes to this permit was received on November 19, 2012. Pursuant to 326 IAC 2-7-10.5(f)(2) the following emission units are permitted under Significant Source Modification:

These emission units were originally permitted in Minor Source Modification No 165-31347-00009, issued on January 24, 2012. When permitted the VOC emissions were estimated to be 19 tons per year. After the new equipment was installed, the source Labs began a startup process that included voluntary emissions testing of the new equipment to verify the emission estimates included in the permit application. Amyl alcohol saturation levels and air flow rates in the new equipment were measured to estimate potential to emit VOCs.

Through exhaustive testing and analysis of the new equipment, the source has determined the VOC estimates from the equipment installed under minor source modification 165-31344-00009 are greater than originally estimated in the January 2012 application. This permit addresses the following equipment originally permitted under minor source modification 165-31344-00009, issued on January 24 2012

(a) the addition of three centrifuges in Building C45;
(b) the addition of two conveyors in Building C45;
(c) the modification of one existing conveyor and
(d) the addition of a concentrate tank in Building C45.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13 17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval 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.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification is the revised approval for the emission units included in Minor Source modification No. 165-31344-00009, issued on January 24, 2012. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

All other conditions of the permit shall remain unchanged and in effect. For your convenience, the entire Part 70 Operating Permit as modified will be provided at issuance.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact Josiah Balogun, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Josiah Balogun or extension (4-5257), or dial (317) 234-5257.

Sincerely,

Tripurari Sinha

Tripurari P. Sinha, Ph.D., Section Chief
Permits Branch
Office of Air Quality

Attachments:
Updated Permit
Technical Support Document
PTE Calculations

JB

cc: File – Vermillion County
Vermillion County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch

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Significant Source Modification to a Part 70 Operating Permit Renewal

OFFICE OF AIR QUALITY

Eli Lilly and Company - Clinton Laboratories
10500 South State Road 63
Clinton, Indiana 47842

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

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 and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

Significant Source Modification No.: 165-32527-00009	
Issued by: for Matthew Stuckey, Branch Chief Permits Branch Office of Air Quality	Issuance Date: April 18, 2013

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary pharmaceutical manufacturing plant.

Source Address:	10500 South State Road 63, Clinton, Indiana 47842
General Source Phone Number:	765-832-4400
SIC Code:	2833, 2834, 2879
County Location:	Vermillion
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act 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(15)]

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

(a) D.1 Utilities Operations: The utilities operations consist of one coal-fired boiler equipped with an ash handling system, four natural gas boilers, and other miscellaneous support equipment. The boilers provide steam to process operations in animal health manufacturing. The detailed equipment list is located in Section D.1 of this permit.

(b) D.2 Animal Health Manufacturing (AHM) – Fermentation Operations: The fermentation processes include the dry material storage area (C44A), the liquid material storage area (C44), raw material prep area (C43/C43A), the fermentation production areas (C41/C41A) and product storage area (C41). The detailed equipment list is located in Section D.2 of this permit.

(c) D.3 Animal Health Manufacturing (AHM) – Product Recovery Operations: The whole broth products from fermentation are continuously fed to the product recovery equipment as capacity allows. The product recovery operations consist of extraction, evaporation, centrifugation and drying processes (C45/C45A), solvent recovery (C45/C45A), raw and recovered material storage (C45), and product storage (C45/C45A). The detailed equipment list is located in Section D.3 of this permit.

(d) D.4 Animal Health Manufacturing (AHM) – Product Finishing Operations: The recovered and dried product from product recovery is continuously fed to the product finishing area as capacity allows. The product finishing operations consist of pelletizing, granulation, milling, mixing, conveying, blending and bagging equipment (C47/C47B/C47E). The detailed equipment list is located in Section D.4 of this permit.

(e) [Reserved]

(f) [Reserved]

(g) [Reserved]

(h) [Reserved]

(i) [Reserved]

(j) [Reserved]

(k) [Reserved]

(l) [Reserved]

(m) [Reserved]

(n) [Reserved]

(o) [Reserved]

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

(1) D.2 Animal Health Manufacturing (AHM) – Fermentation Operations: Various mixers, bump tanks and fermenter tanks in the fermentation operations each emitting less than 5 pounds PM10 per hour or 25 pounds per day. [326 IAC 6-3-2].

(2) D.16 Insignificant Activities: This section provides specific requirements for cold-cleaning organic solvent degreasing operations at the site which are defined as insignificant activities pursuant to 326 IAC 2-7-1(21)(G)(vi)(CC).

(b) This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21), that do not have applicable requirements:

(1) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;

(2) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour;

(3) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour;

(4) Combustion source flame safety purging on startup;

(5) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;

(6) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;

(7) VOC/HAP storage tanks with capacity less than or equal to 1,000 gallons and

annual throughputs less than 12,000 gallons;

(8) VOC/HAP storage vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids;

(9) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases;

(10) Cleaners and solvents with a combined use less than or equal to 145 gallons per 12 months characterized having a vapor pressure equal to or less than 2 kPa, 15 mm Hg, or 0.3 psi measured at 38°C (100°F); or having a vapor pressure equal to or less than 0.7 kPa, 5 mm Hg, or 0.1 psi measured at 20°C (68°F);

(11) Closed loop heating and cooling systems;

(12) Activities associated with the transportation and treatment of sanitary sewage, provided discharge to the treatment plant is under the control of the owner/operator, that is, an on-site sewage treatment facility;

(13) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs;

(14) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs;

(15) Noncontact cooling tower systems that are forced and induced draft cooling tower systems not regulated under a NESHAP;

(16) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;

(17) Heat exchanger cleaning and repair;

(18) Process vessel degassing and cleaning to prepare for internal repairs;

(19) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal;

(20) Paved and unpaved roads and parking lots with public access;

(21) Covered conveyors for coal or coke conveying of less than or equal to 360 tons per day;

(22) Coal bunker and coal scale exhausts and associated dust collector vents;

(23) Asbestos abatement projects regulated by 326 IAC 14-10;

(24) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process;

(25) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup including catch tanks, temporary liquid separators, tanks and fluid handling equipment;

(26) Blowdown from sight glasses; boilers; compressors; pumps; and cooling towers;

(27) On-site fire and emergency response training approved by the department;

(28) Emergency generators including gasoline generators not exceeding 110 horsepower, diesel generators not exceeding 1,600 horsepower; and natural gas turbines or reciprocating engines not exceeding 16,000 horsepower;

(29) Stationary fire pumps;

(30) Purge double block and bleed valves;

(31) Filter or coalescer media changeout;

(32) Vents from ash transport systems not operated at positive pressure;

(33) A laboratory as defined in 326 IAC 2-7-1(21)(D); and

(34) Farm operations.

(35) Other activities below insignificant threshold levels:

(A) BuildingC86 10,000-gallon storage tank or other portable container(s) for storing hexane used for fire training with emissions less than 5 pounds per day or 1 ton per year of a single HAP.

(B) Tanks C9TK01, TK02, TK03, TK04 TK6A TK09, TK10 and TK19 may be used for insignificant activities.

(C) Waste water treatment system with VOC emissions less than three (3) pounds per hour or fifteen (15) pounds per day.

(D) Loading and unloading stations, storage tanks, processing tanks, crystallizers, and centrifuges for the processing of chicken and lard oil may be used for insignificant activities.

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 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, T165-27293-00009, 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 or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(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.2.1 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; or

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

B.3 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.4 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.5 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.6 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.7 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. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(34).

B.9 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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)][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 maintain Preventive Maintenance Plans (PMPs) including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the PMPs, including any required record keeping, as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.

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

(d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 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 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 the certification by the "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)(9) 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.

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

B.12 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) In addition to the nonapplicability determinations set forth in Section D of this permit, the IDEM, OAQ has made the following determination regarding this source.

(1) **40 CFR Part 60, Subpart D – Fossil-fuel fired steam generating units:** This source is not subject to 40 CFR Part 60, Subpart D because none of the boilers at the plant site exceed 250 MMBtu/hr in heat input capacity. [40 CFR 60.40(a)(1)].

(2) **40 CFR Part 60, Subpart Db – Industrial-Commercial-Institutional steam generating units:** This source is not subject to 40 CFR Part 60, Subpart Db because commencement of constructed, modification, or reconstructed of the boilers at plant site with a maximum design heat input capacity of greater than 100 million MMBtu/hr, all occurred before June 1, 1984.

(3) **40 CFR Part 60, Subpart Dc – Small Industrial-Commercial-Institutional steam generating units:** This source is not subject to 40 CFR Part 60, Subpart Dc because commencement of constructed, modification, or reconstructed of the boilers at plant site with a maximum design heat input capacity of greater than 100 million MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr, all occurred before June 9, 1989.

(4) **40 CFR Part 63, Subpart Q – Industrial Process Cooling Towers:** This source is not subject to 40 CFR Part 63, Subpart Q and 326 IAC 20-4 because the source does not utilize chromium based water treatment compounds in its cooling towers. [40 CFR 63.400].

(5) **40 CFR Part 63, Subpart T – Halogenated Solvent Cleaning:** This source is not subject to 40 CFR Part 63, Subpart T and 326 IAC 20-6 because the source does not use halogenated solvents in any solvent cleaning machines. [40 CFR 63.460].

(6) **40 CFR Part 63, Subpart MMM – Pesticide Active Ingredient Production:**

This source is not subject to 40 CFR Part 63, Subpart MMM and 326 IAC 20-45 because the source does not contain any pesticide active ingredient process units or associated equipment as described in 40 CFR 63.1360. [40 CFR 63.1360].

(7) **40 CFR Part 63, Subpart GGGGG – Site Remediation:** This source is not subject to 40 CFR Part 63, Subpart GGGGG because the site is not performing any remediation activities as defined in this rule.

(8) **326 IAC 6-5 – Fugitive Particulate Matter Emission Limitations:** This source does not have potential fugitive dust emissions greater than 25 tons per year, and is therefore, not subject to the requirements of this rule.

(9) **326 IAC 8-4 – Petroleum Sources:** This source does not operate any facilities subject to the requirements of 326 IAC 8-4. 326 IAC 8-4-6 is not applicable to this source because the source does not accept deliveries of gasoline by transports, as defined by 326 IAC 1-2-84.

(10) **40 CFR Part 60, Subpart K - Storage Vessels for Petroleum Liquids:** This source is not subject to 40 CFR 60, Subpart K because none of the storage tanks at the source constructed between June 11, 1973 and May 19, 1978 store petroleum liquids, as defined in 40 CFR 60.111.

(11) **40 CFR Part 60, Subpart Ka - Storage Vessels for Petroleum Liquids:** This source is not subject to 40 CFR 60, Subpart K because none of the storage tanks at the source constructed between June 11, 1973 and May 19, 1978 store petroleum liquids, as defined in 40 CFR 60.111.

(12) 40 CFR 63, Sections 63.50 through 63.56 - Section 112(j): This is not subject to 40 CFR Part 63, Section 63.50 through 63.56 because there are no affected sources within a source category or subcategory for which USEPA has failed to promulgate emission standards by the section 112 (j) deadlines.

(13) **326 IAC 8-6 – Organic Solvent Emissions Limitations**: The provisions of 326 IAC 8-6 are not applicable to this source because the source uses exempt solvent pursuant to 326 IAC 8-6-2(a)(4).

(14) **326 IAC 10 – Nitrogen Oxide Rules:** This source does not contain any emission units identified in 326 IAC 10-4. Therefore, the source is not subject to the NO_X emission control requirements of that rule.

(15) **326 IAC 15 – Lead Rules:** This source does not contain any emission units described in 326 IAC 15. Therefore, the source is not subject to the requirements of those rules.

(16) **326 IAC 21 – Acid Deposition:** This source does not contain any emission units described in 326 IAC 21. Therefore, the source is not subject to the requirements of those rules.

(c) 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.

(d) 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.

(e) 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.

(f) 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).

(g) 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)]

(h) 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.13 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 T165-27293-00009 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, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control)

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.15 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 the certification by the "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.16 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 the certification by the "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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12] [40 CFR 72]

(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 shall be certified by the "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)]

(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

B.18 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 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.19 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),(c), or (e) 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),(c), or (e). 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), (c)(1), and (e)(2).

(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 the certification by the "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.20 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.21 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.22 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

The application which shall be submitted by the Permittee does require the certification by the "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.23 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.24 Advanced Source Modification Approval [326 IAC 2-7-5(16)] [326 IAC 2-7-10.5]

(a) The requirements to obtain a source modification approval under 326 IAC 2-7-10.5 or a permit modification under 326 IAC 2-7-12 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.

(b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.25 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 5-1-3 (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 or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 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]

The Permittee shall comply with the applicable requirements of 326 IAC 14-10, 326 IAC 18, and 40 CFR 61.140. The requirement in 326 IAC 14-10-1(a) that the owner or operator shall use an Indiana Accredited Asbestos Inspector and all the requirements in 326 IAC 18 related to licensing requirements for asbestos inspectors are not federally enforceable.

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

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

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

Indiana Department of Environmental Management
Compliance 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 certification by the "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 certification by the "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)] [326 IAC 3-5]

(a) This section applies to the operation and maintenance of equipment and devices specified in Section D of this permit to determine or monitor compliance, except that it does not apply to continuous emissions monitoring systems or continuous opacity monitoring systems described in Section D. Conditions C.11 (Maintenance of Continuous Emission Monitoring Equipment) and C.12 (Maintenance of Continuous Opacity Monitoring Equipment) establish the general operation and maintenance requirements for continuous emission monitoring systems and continuous opacity monitoring systems, respectively.

(b) Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If

due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) 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.

(d) The Permittee shall keep records of monitoring system operation that include the following:

(1) All maintenance logs, calibration checks, and other required quality assurance activities.

(2) All records of corrective and preventive action.

(3) A log of monitoring system downtime, including the following:

(A) Date of monitoring system downtime.

(B) Time of commencement and completion of each downtime.

(C) Reason for each downtime.

(e) The Permittee shall submit a report of monitoring system downtime as specified in Section D. The report shall include the following:

(1) Date of monitoring system downtime.

(2) Time of commencement.

(3) Duration of each downtime.

(4) Reasons for each downtime.

(5) Nature of system repairs and adjustments.

(f) Except where permit conditions streamline similar applicable requirements pursuant to 326 IAC 2-7-24, nothing in this permit nor in 326 IAC 3-5 supersedes the monitoring provisions in 40 CFR Part 60 or 40 CFR Part 63.

C.11 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)] [326 IAC 2-1.1-11] [326 IAC 3-5]

(a) Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit

issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall install, calibrate, maintain, and operate all necessary continuous emission monitoring systems (CEMS) and related equipment in accordance with applicable federal regulations and 326 IAC 3-5.

(c) This provision applies only to CEMS operated solely for monitoring compliance with BACT limitations. The CEMS shall be operated at all times as specified in Section D, except during CEMS malfunctions, reasonable periods of necessary CEMS calibration or CEMS maintenance activities. CEMS calibration and maintenance activities shall be properly documented and shall be conducted pursuant to the standard operating procedures under 326 IAC 3-5-4(a).

(d) The Permittee shall keep records in accordance with 326 IAC 3-5-6(b) that includes the following:

(1) All documentation relating to:

(A) design, installation, and testing of all elements of the monitoring system; and

(B) required corrective action or compliance plan activities.

(2) All maintenance logs, calibration checks, and other required quality assurance activities.

(3) All records of corrective and preventive action.

(4) A log of plant operations, including the following:

(A) Date of facility downtime.

(B) Time of commencement and completion of each downtime.

(C) Reason for each downtime.

(e) In accordance with 326 IAC 3-5-7(5), the Permittee shall submit reports of continuous monitoring system instrument downtime, except for zero (0) and span checks, which shall be reported separately. The reports shall include the following:

(1) Date of downtime.

(2) Time of commencement.

(3) Duration of each downtime.

(4) Reasons for each downtime.

(5) Nature of system repairs and adjustments.

(f) Except where permit conditions streamline similar applicable requirements pursuant to 326 IAC 2-7-24, nothing in this permit nor in 326 IAC 3-5 supersedes the monitoring provisions in 40 CFR Part 60 or 40 CFR Part 63.

(g) The Permittee shall prepare and submit to IDEM, OAQ a written report of the results of the quarterly cylinder gas audits and annual relative accuracy test audits within thirty (30) days after the end of each calender quarter. The report must contain the information required by 326 IAC 3-5-5(e)(2) is not federally enforceable.

(h) If the Permittee is required by 326 3-5-4(a) and section D to prepare and implement a written standard operating procedure (SOP) for CEMS, it must be submitted to IDEM, OAQ within ninety (90) days after monitor installation. If revisions are made to the SOP, updates shall be submitted to IDEM, OAQ biennially. 326 IAC 3-5-4(a) is not federally enforceable.

C.12 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)][326 IAC 3-5]

(a) As specified in Section D.1 of this permit, the Permittee shall install, calibrate, maintain, and operate the necessary continuous opacity monitoring system (COMS) and related equipment. For the boiler, the COMS shall be in operation at all times that coal is being combusted in the boiler, except during COMS malfunctions and reasonable periods of necessary COMS calibrations, audits, maintenance, or repair activities.

(b) The continuous opacity monitoring systems shall meet the performance specifications of 40 CFR, Appendix B Performance Specification No.1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a continuous opacity monitoring system (COMS) occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a continuous opacity monitoring system (COMS) is malfunctioning or will be down for calibration, maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader(s), who may be an employees of the Permittee or an independent contractors, to self-monitor the emissions from the emission unit stack.

(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the shutdown or malfunction.

(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, until such time that COMS is online.

(3) Method 9 readings may be discontinued once a COMS is online.

(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Deviation and COMS Excess Emissions Reports.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous opacity monitoring system pursuant to 326 IAC 3-5, (and 40 CFR 60 and/or 40 CFR 63).

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

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

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

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

C.14 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.15 Response to Abnormal or Out-of-Range Compliance Monitoring Measurements [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting a measurement required by a compliance monitoring condition of this permit that is outside the normal or usual range of values for the monitoring parameter, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; 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.

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

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

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

The response action documents submitted pursuant to this condition do require the certification by the "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.17 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]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year 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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2][326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit or Title V Operational Permit T165-6462-00009, third significant permit modification No. 165-26307-00009 shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

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

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A), 40 CFR 51.165(a)(6)(vi)(B), 40 CFR 51.166(r)(6)(vi)(a), and/or 40 CFR 51.166(r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165(a)(6)(vi)(A) and/or 40 CFR 51.166(r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions

increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance 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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

(f) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any “project” (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

(4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part 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

(h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

The Permittee shall comply with all the applicable provisions of 40 CFR Part 82, wherever applicable to activities at the source.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Utilities Operations

(a) The following emissions units are subject to applicable requirements described in this D section.

Bldg.	Unit ID*	Unit Description	Stack/Vent ID	Control Devices**	Capacity	Units
C31	Ash Tank	Ash Tank for C31 Coal Fired Boiler	PVC31ASH TK TRNSFR	Baghouse**	6,361	Cubic Feet
C31	BLR01	Coal Fired Boiler	C31IDF130	Baghouse**	243	MMBTU/hr
C21	BLR01	Natural Gas Fired Boiler	PVC21BLR1		79.5	MMBTU/hr
C21	BLR02	Natural Gas Fired Boiler	PVC21BLR2		79.5	MMBTU/hr
C21	BLR03	Natural Gas Fired Boiler	PVC21BLR3		79.5	MMBTU/hr
C21	BLR04	Natural Gas Fired Boiler	PVC21BLR4		140.6	MMBTU/hr

* Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.

(b) The following emissions units are not subject to applicable requirements described in this D section, and are listed only for informational purposes.

Bldg.	Unit ID*	Unit Description	Stack/Vent ID	Control Devices**	Capacity	Units
C31	TK600*	Powdered Activated Carbon Silo	FLT630		2,294	Cubic Feet
C24	DFP01*	Diesel Fire Pump	PVC24DFP1		2.15	MMBTU/hr
C24	DFP02*	Diesel Fire Pump	PVC24DFP2		2.15	MMBTU/hr
C44	GEN01*	Emergency Diesel Generator	PVC44GEN1		3.99	MMBTU/hr
C55	GEN01*	Emergency Diesel Generator	PVC55GEN1		1.3	MMBTU/hr
C79	GEN01*	Back-Up Fire Pump Generator	PVC79GEN1		4.86	MMBTU/hr
C23	TK01*	#2 Fuel Oil Storage Tank	PVC23TK1		238,000	Gallons
C24	TK01*	#2 Fuel Oil Storage Tank	PVC24TK1		275	Gallons
C79	TK01*	#2 Fuel Oil Storage Tank	PVC79TK1		500	Gallons
C24	TK02*	#2 Fuel Oil Storage Tank	PVC24TK2		275	Gallons

* Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.

(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 Matter [326 IAC 6-2] [326 IAC 6-3]

(a) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the particulate matter emissions from the coal-fired boiler (C31 BLR01) shall not exceed 0.34 pound per million Btu heat input.

(b) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the particulate matter emissions from each of the natural gas/fuel oil-fired boilers (C21 BLR01, BLR02, BLR03 and BLR04) shall not exceed 0.19 pound per million Btu heat input.

(c) Pursuant to 326 IAC 6-3-2 (Particulate Matter Emission Limitations for Manufacturing Processes), particulate matter emissions from the C31 ash tank shall not exceed 2.86 pounds per hour based on a maximum throughput of 0.585 tons per hour.

D.1.2 Sulfur Dioxide (SO_2) [326 IAC 7-4-8]

(a) Pursuant to 326 IAC 7-4-8 (SO_2 Emission Limitations), the SO_2 emissions from the coal-fired boiler (C31 BLR01) shall not exceed 4.72 pounds per million Btu heat input.

(b) Pursuant to 326 IAC 7-4-8 (SO_2 Emission Limitations), the SO_2 emissions from each of the natural gas/fuel oil-fired boilers (C21 BLR01, BLR02, BLR03 and BLR04) shall not exceed 0.36 pound per million Btu heat input.

D.1.3 Temporary Alternative Opacity Limitations [326 IAC 5-1-3]

Pursuant to 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), the following conditions apply as an alternative to the opacity limitations in Section C, Condition C.2 - Opacity:

(a) When building a new fire in a boiler, or shutting down a boiler, opacity may exceed the applicable limit established in 326 IAC 5-1-2 and stated in Section C, Condition C.2 - Opacity. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period. Opacity in excess of the applicable limit established in 326 IAC 5-1-2 shall not continue for more than two (2) six (6)-minute averaging periods in any twenty-four (24) hour period.

(b) When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed the applicable limit established in 326 IAC 5-1-2 and stated in Section C, Condition C.2 - Opacity. However, opacity levels shall not exceed sixty percent (60%) for any six (6)-minute averaging period and opacity in excess of the applicable limit shall not continue for more than one (1) six (6)-minute averaging periods in any sixty (60) minute period. The averaging periods shall not be permitted for more than three (3) six (6)-minute averaging periods in a twelve (12) hour period.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for the coal-fired boiler and associated control devices. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.

Compliance Determination Requirements

D.1.4.1 Particulate Matter Control

In order to comply with Condition D.1.1(a), the baghouse for particulate matter control shall be in operation and control emissions from the coal-fired boiler C31 at all times that this boiler is in operation and combusting coal as the fuel.

D.1.5 Testing Requirements [326 IAC 2-7-6(1) and (6)]

(a) In order to determine compliance with Condition D.1.1, the Permittee shall perform particulate matter performance tests for the coal-fired boiler (C31 BLR01) by August 2010 utilizing Methods 5 or 17 (40 CFR Part 60, Appendix A) for PM or other methods as approved by the Commissioner. These tests shall be repeated every third calendar year from the calendar year of the most recently completed stack test. The requirements for

conducting performance tests are described in Section C, Condition C.8 – Performance Testing.

(b) No emissions testing is required for the boilers to assess compliance with the sulfur dioxide emissions limits established in Condition D.1.2(b) at this time, but IDEM may require performance testing when necessary. The requirements for conducting performance tests are described in Section C, Condition C.8 – Performance Testing.

D.1.6 Coal Sampling and Analysis for SO_2 [326 IAC 3-7] [326 IAC 7-2]

The Permittee shall collect coal sampling and analysis data on a calendar month basis in accordance with one of the following methods specified in 326 IAC 3-7 for the coal-fired boiler (C31 BLR01):

(a) Coal sampling and analysis performed using one of the following procedures:

(1) Sampling and analyzing the coal according to the Permittee's Coal Sampling and Assay Plan, submitted pursuant to 326 IAC 3-7-5(a). The following minimum sampling and analysis requirements shall be met:

(A) The coal sample acquisition point shall be at a location where representative samples of the total coal flow to be combusted by the facility or facilities may be obtained. A single as-bunkered or as-burned sampling station may be used to represent the coal to be combusted by multiple facilities using the same stockpile feed system;

(B) Coal shall be sampled at least two (2) times per day and at least one (1) time per twelve (12) hour period unless no coal is bunkered during the preceding twelve (12) hour period. This permit condition satisfies the requirements of 326 IAC 3-7-2(b)(3)(B).

(C) Minimum sample size shall be five hundred (500) grams;

(D) Samples shall be composited and analyzed at the end of each calendar month;

(E) Preparation of the coal sample, heat content analysis, and sulfur content analysis shall be determined pursuant to 326 IAC 3-7-2(c), (d), (e); or

(2) Sampling and analyzing the coal pursuant to 326 IAC 3-7-2(a).

(b) Upon written notification to IDEM by the Permittee, continuous emission monitoring data collected and reported pursuant to 326 IAC 3-5-1 may be used as the means for determining compliance with the emission limitations in 326 IAC 7-1.1-2. Upon such notification, the other requirements of 326 IAC 7-2 shall not apply. [326 IAC 7-2-1(g)]

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

D.1.7 [Reserved]

D.1.8 Continuous Opacity Monitoring [326 IAC 3-5]

Pursuant to 326 IAC 3-5-1 (Continuous Monitoring of Emissions), a continuous monitoring system shall be calibrated, maintained, and operated for measuring opacity from the coal-fired boiler (C31 BLR01).

(a) The Permittee shall comply with the applicable performance and operating specifications of 326 IAC 3-5-2.

(b) The Permittee shall comply with the applicable monitor system certification requirements of 326 IAC 3-5-3.

(c) The Permittee shall comply with the applicable quality assurance and quality control (QA/QC) requirements of 326 IAC 3-5-5.

D.1.9 Opacity Readings [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

When the coal-fired boiler (C31 BLR01) is in operation and combusting coal as a fuel:

(a) Appropriate response steps shall be taken in accordance with Section C - Response to abnormal or out-of-range Compliance Monitoring Measurements whenever the opacity from stack C31IDF130 exceeds fifteen percent (15%) for three (3) consecutive six (6) minute averaging periods. This requirement shall not apply when the Continuous Opacity Monitoring System records opacity levels greater than 15% due to COMS calibration, maintenance, or other quality assurance activities.

(b) Opacity readings in excess of fifteen percent (15%) but not exceeding the opacity limit for the unit are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to abnormal or out-of-range Compliance Monitoring Measurements shall be considered a deviation from this permit.

(c) The Permittee may request that the IDEM, OAQ approve a different opacity trigger level than the one specified in (a) and (b) of this condition, provided the Permittee can demonstrate, through stack testing or other appropriate means, that a different opacity trigger level is appropriate for monitoring compliance with the applicable particulate matter mass emission limits.

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

D.1.10 Coal Characteristics and Consumption Records

The Permittee shall record the information described in items (a) through (d) below on a calendar month basis for the coal-fired boiler (C31 BLR01).

(a) The total amount (expressed in tons) of coal combusted;

(b) The average sulfur content (expressed in percentage by weight) of the coal combusted;

(c) The average heat content (expressed in Btu per pound) of the coal combusted; and

(d) The average sulfur dioxide emission rate (expressed in pounds per million Btu) for the coal-fired boiler (C31 BLR01).

D.1.11 [Reserved]

D.1.12 Continuous Opacity Monitoring

The Permittee shall maintain records of the continuous opacity monitor readings of the coal-fired boiler (C31 BLR01).

D.1.13 [Reserved]

D.1.14 Standard Operating Procedures

(a) Pursuant to 326 IAC 3-5-4, the Permittee shall maintain a complete, written continuous monitoring standard operating procedure (SOP) for the continuous opacity monitor (COM). If revisions are made to the SOP, updates shall be submitted to the department biennially. The COM SOP should contain, at a minimum, the items described in 326 IAC 3-5-4(a).

(b) Pursuant to 326 IAC 3-7-5(a), the Permittee shall maintain a standard operating procedure (SOP) to be followed for sampling, handling, analysis, quality control, quality assurance, and data reporting of the information collected pursuant to 326 IAC 3-7-2 through 326 IAC 3-7-4. 326 IAC 3-7-4 is not applicable to this source because 326 IAC 3-7-5(a) references only coal-fired facilities. In addition, any revision to the SOP shall be submitted to IDEM, OAQ.

D.1.15 Reporting Requirements

(a) A quarterly summary of the information shall be submitted using the reporting form located at the end of this permit, or its equivalent. At a minimum, the report shall contain the information specified in Condition D.1.10.

(b) The Permittee shall prepare and submit a written report of the results of the continuous opacity monitor calibration error audit for each calendar quarter. The report must contain the information required by 326 IAC 3-5-5(e)(2).

(c) The Permittee shall prepare and submit a written report of excess opacity of the continuous opacity monitor each calendar quarter. The report must contain the information required by 326 IAC 3-5-7(4).

(d) The Permittee shall prepare and submit a written report of continuous opacity monitor downtime each calendar quarter. The report must contain the information required by 326 IAC 3-5-7(5).

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.1.16 Modifications and Construction: Advance Approval of Permit Conditions

The emission units described in this section D are not subject to the advance approval permit conditions.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: AHM - Fermentation Operations

(a) The following Unit IDs have applicable conditions in this D Section:

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C41	TKF01	3	Fermenter	PVC41F01	Cyclone F1VLS	50,000	Gallons
C41	TKF02	3	Fermenter	PVC41F02	Cyclone F2VLS	50,000	Gallons
C41	TKF03	3	Fermenter	PVC41F03	Cyclone F3VLS	50,000	Gallons
C41	TKF04	3	Fermenter	PVC41F04	Cyclone F4VLS	50,000	Gallons
C41	TKF05	3	Fermenter	PVC41F05	Cyclone F5VLS	50,000	Gallons
C41	TKF06	3	Fermenter	PVC41F06	Cyclone F6VLS	50,000	Gallons
C41	TKF07	3	Fermenter	PVC41F07	Cyclone F7VLS	50,000	Gallons
C41	TKF08	3	Fermenter	PVC41F08	Cyclone F8VLS	50,000	Gallons
C41	TKF09	3	Fermenter	PVC41F09	Cyclone F9VLS	50,000	Gallons
C41	TKF10	3	Fermenter	PVC41F10	Cyclone F10VLS	50,000	Gallons
C41	TKF11	3	Fermenter	PVC41F11	Cyclone F11VLS	50,000	Gallons
C41	TKF12	3	Fermenter	PVC41F12	Cyclone F12VLS	50,000	Gallons
C41	TKF13	3	Fermenter	PVC41F13	Cyclone F13VLS	50,000	Gallons
C41	TKF14	3	Fermenter	PVC41F14	Cyclone F14VLS	50,000	Gallons
C41	TKF15	3	Fermenter	PVC41F16	Cyclone F15VLS	50,000	Gallons
C41	TKF16	3	Fermenter	PVC41F16	Cyclone F16VLS	50,000	Gallons
C41A	TKF17	No	Fermenter	PVC41AF17	Cyclone F17VLS	50,000	Gallons
C41A	TKF18	No	Fermenter	PVC41AF18	Cyclone F18VLS	50,000	Gallons
C41A	TKF19	No	Fermenter	PVC41AF19	Cyclone F19VLS	50,000	Gallons
C41A	TKF20	No	Fermenter	PVC41AF20	Cyclone F20VLS	50,000	Gallons
C41A	TKF21	No	Fermenter	PVC41AF21	Cyclone F21VLS	50,000	Gallons
C41A	TKF22	No	Fermenter	PVC41AF22	Cyclone F22VLS	50,000	Gallons
C41A	TKF23	No	Fermenter	PVC41AF23	Cyclone F23VLS	50,000	Gallons
C41A	TKF24	No	Fermenter	PVC41AF24	Cyclone F24VLS	50,000	Gallons
C41A	TKF25	No	Fermenter	PVC41AF25	Cyclone F25VLS	50,000	Gallons
C41A	TKF26	No	Fermenter	PVC41AF26	Cyclone F26VLS	50,000	Gallons
C41A	TKF27	No	Fermenter	PVC41AF27	Cyclone F27VLS	50,000	Gallons

C41A	TKF28	No	Fermenter	PVC41AF28	Cyclone F28VLS	50,000	Gallons
C41A	TKF29	No	Fermenter	PVC41AF29	Cyclone F29VLS	50,000	Gallons
C41A	TKF30	No	Fermenter	PVC41AF30	Cyclone F30VLS	50,000	Gallons
C41A	TKF31	No	Fermenter	PVC41AF31	Cyclone F31VLS	50,000	Gallons
C41A	TKF32	No	Fermenter	PVC41AF32	Cyclone F32VLS	50,000	Gallons
C41A	TKF33	No	Fermenter	PVC41AF33	Cyclone F33VLS	50,000	Gallons
C41A	TKF34	No	Fermenter	PVC41AF34	Cyclone F34VLS	50,000	Gallons
C44A	TK047	5	Vibrating Bin	PVC44AC047	Baghouse VS047**	42,000	Kg
C44A	TK048	5	Vibrating Bin	PVC44AC048	Baghouse VS048**	43,680	Kg
C44A	TK049	5	Vibrating Bin	PVC44AC049	Baghouse VS049**	43,680	Kg
C44A	TK050	5	Vibrating Bin	PVC44AC050	Baghouse VS050**	42,000	Kg
C44A	TK051	5	Vibrating Bin	PVC44AC047	Baghouse VS047**	42,000	Kg
C44A	TK052	5	Vibrating Bin	PVC44AC052	Baghouse VS052**	37,408	Kg
C44A	TK053	5	Vibrating Bin	PVC44AC052	Baghouse VS052**	37,408	Kg
C44A	TK054	5	Vibrating Bin	PVC44AC050	Baghouse VS050**	42,000	Kg
C44A	TK055	5	Vibrating Bin	PVC44AC055	Baghouse VS055**	43,680	Kg
C44A	TK056	5	Vibrating Bin	PVC44AC055	Baghouse VS055**	43,680	Kg
C44A	TK057	5	Vibrating Bin	PVC44AC055	Baghouse VS055**	43,680	Kg
C44A	TK058	5	Vibrating Bin	PVC44AC055	Baghouse VS055**	43,680	Kg
C43A	TK301	1	Batch Fermenter Tank	PVC43AAC301	Filter FLT301**, Baghouse VS311	7,500	Gallons
C43A	TK302	1	Batch Fermenter Tank	PVC43AAC301	Filter FLT302**, Baghouse VS311	7,500	Gallons

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A "NO" indicates that the equipment is not associated with the Narasin Process.

(b) The following Unit IDs are not subject to applicable requirements, and are listed only for informational purposes

Bldg.	Unit ID*	*Narasin Emission Units****	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C41	TKB01*	2	Bump Tank	PVC41B01	Cyclone B1VLS	7,000	Gallons
C41	TKB02*	2	Bump Tank	PVC41B02	Cyclone B2VLS	7,000	Gallons
C41	TKB03*	2	Bump Tank	PVC41B03	Cyclone B3VLS	7,000	Gallons
C41	TKB04*	2	Bump Tank	PVC41B04	Cyclone B4VLS	7,000	Gallons
C41	TKB05*	2	Bump Tank	PVC41B05	Cyclone B5VLS	7,000	Gallons
C41	TKB06*	2	Bump Tank	PVC41B06	Cyclone B6VLS	7,000	Gallons
C41	TKB07*	2	Bump Tank	PVC41B07	Cyclone B7VLS	7,000	Gallons

C41	TKB08*	2	Bump Tank	PVC41B08	Cyclone B8VLS	7,000	Gallons
C41	TKB09*	2	Bump Tank	PVC41B09	Cyclone B9VLS	7,000	Gallons
C41	TKB10*	2	Bump Tank	PVC41B10	Cyclone B10VLS	7,000	Gallons
C41	TKB11*	2	Bump Tank	PVC41B11	Cyclone B11VLS	7,000	Gallons
C41	TKB12*	2	Bump Tank	PVC41B12	Cyclone B12VLS	7,000	Gallons
C41	TKB13*	2	Bump Tank	PVC41B13	Cyclone B13VLS	7,000	Gallons
C41	TKB14*	2	Bump Tank	PVC41B14	Cyclone B14VLS	7,000	Gallons
C41	TKB15*	2	Bump Tank	PVC41B15	Cyclone B15VLS	7,000	Gallons
C41	TKB16*	2	Bump Tank	PVC41B16	Cyclone B16VLS	7,000	Gallons
C41A	TKB22*	No	Bump Tank	PVC41AB22	Cyclone B22VLS	7,000	Gallons
C41A	TKB24*	No	Bump Tank	PVC41AB24	Cyclone B24VLS	7,000	Gallons
C41A	TKB26*	No	Bump Tank	PVC41AB26	Cyclone B26VLS	7,000	Gallons
C41A	TKB28*	No	Bump Tank	PVC41AB28	Cyclone B28VLS	7,000	Gallons
C43A	SM311*	1	Screw Mixer	PVC43AAC304	Baghouse VS311	N/A	N/A
C43A	TK305*	No	Mineral Pot	PVC43AAC305	Filter FLT305	80	Gallons
C41	TKH01*	No	Hold Tank	PVC41TKH01		20,000	Gallons
C41	TKH02*	4	Hold Tank	PVC41TKH02		20,000	Gallons
C41	TKH03*	No	Hold Tank	PVC41TKH03		50,000	Gallons
C41	TKH04*	No	Hold Tank	PVC41TKH04		50,000	Gallons
C41	TKH05*	4	Hold Tank	PVC41TKH05		50,000	Gallons
C41	TKA01*	No	Additive Tank	PVC41TKA01	Cyclone VLS01	8,000	Gallons
C41	TKA02*	No	Additive Tank	PVC41TKA02	Cyclone VLS01	8,000	Gallons
C41	TKA03*	3	Additive Tank	PVC41TKA03	Cyclone VLS03	8,000	Gallons
C41	TKA04*	3	Additive Tank	PVC41TKA04	Cyclone VLS05	8,000	Gallons
C41	TKA05*	3	Additive Tank	PVC41TKA05	Cyclone VLS05	8,000	Gallons
C41	TKA06*	3	Additive Tank	PVC41TKA06	Cyclone VLS05	8,000	Gallons
C41A	TKA08*	3	Additive Tank	PVC41ATKA08	Cyclone VLS08	8,000	Gallons
C41A	TKA09*	No	Additive Tank	PVC41ATKA09	Cyclone VLS09	8,000	Gallons
C98	TK001*	No	Land Application Tank	PVC98TK001		10,000	Gallons
C98	TK002*	No	Land Application Tank	PVC98TK002		600	Gallons
C98	TK003*	No	Land Application Tank	PVC98TK003		15,000	Gallons
C25	TK2*	No	Land Application Tank	PVC25TK2		500,000	Gallons
C25	TK3*	No	Land Application Tank	PVC25TK3		1,000,000	Gallons
C41A	TK001*	No	Condensate Tank	PVC41TK001		N/AV	N/AV
C41	TK002*	No	Condensate Tank	PVC41TK002		N/AV	N/AV
C41	TK003*	No	Condensate Tank	PVC41TK003		N/AV	N/AV
C44	TKL21*	6	Liquid Bulk Tank	PVC44TKL21		20,000	Gallons
C44	TKL22*	6	Liquid Bulk Tank	PVC44TKL22		20,000	Gallons
C44	TKL31*	6	Liquid Bulk Tank	PVC44TKL31		30,000	Gallons
C44	TKL32*	6	Liquid Bulk Tank	PVC44TKL32		30,000	Gallons

C44	TKL33*	6	Liquid Bulk Tank	PVC44TKL33		30,000	Gallons
C44	TKL34*	6	Liquid Bulk Tank	PVC44TKL34		30,000	Gallons
C44	TKL35*	6	Liquid Bulk Tank	PVC44TKL35		30,000	Gallons
C44	TKL36*	6	Liquid Bulk Tank	PVC44TKL36		30,000	Gallons
C44	TKL37*	6	Liquid Bulk Tank	PVC44TKL37		30,000	Gallons
C44	TKL51*	6	Liquid Bulk Tank	PVC44TKL51		50,000	Gallons
C44	TKL52*	6	Liquid Bulk Tank	PVC44TKL52		50,000	Gallons
C44	TKL53*	6	Liquid Bulk Tank	PVC44TKL53		50,000	Gallons
C44	TKL54*	6	Liquid Bulk Tank	PVC44TKL54		50,000	Gallons
C44A	AC410*	7	Vacuum Cleaning System	PVC44AACHOUSEVAC	Cyclone VS410B, Baghouse VS410A	N/A	N/A
C44	WH059*	5	Weigh Hopper	PVC44VS059	Baghouse VSWH059	8,000	Kg
C44	WH060*	5	Weigh Hopper	PVC44VS060	Baghouse VSWH060	8,000	Kg
C44	WH061*	5	Weigh Hopper	PVC44VS061	Baghouse VSWH061	8,000	Kg
C43A	WI003 *	1	Weigh Indicator	ACC43AW001		N/AV	N/AV

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A "NO" indicates that the equipment is not associated with the Narasin Process.

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

(a) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from each fermenter (TKF01 through TKF34) shall not exceed 18.2 pounds per hour based on a maximum throughput of 9.256 tons per hour.

(b) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK047 (baghouse VS047) shall not exceed 1.4 pounds per hour based on a maximum throughput of 0.207 tons per hour.

(c) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK048 (baghouse VS048) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(d) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK049 (baghouse VS049) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(e) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK050 (baghouse VS050) shall not exceed 1.8 pounds per hour based on a maximum throughput of 0.284 tons per hour.

(f) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK051 (baghouse VS047) shall not exceed 1.4 pounds per hour based on a maximum throughput of 0.207 tons per hour.

(g) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK052 (baghouse VS052) shall not exceed 0.9 pounds per hour based on a maximum throughput of 0.105 tons per hour.

(h) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK053 (baghouse VS052) shall not exceed 0.9 pounds per hour based on a maximum throughput of 0.105 tons per hour.

(i) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK054 (baghouse VS050) shall not exceed 1.8 pounds per hour based on a maximum throughput of 0.284 tons per hour.

(j) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK055 (baghouse VS055) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(k) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK056 (baghouse VS055) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(l) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK057 (baghouse VS055) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(m) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the vibrating bin TK058 (baghouse VS055) shall not exceed 1.2 pounds per hour based on a maximum throughput of 0.148 tons per hour.

(n) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the batch fermenter tank TK301 (filter FLT301 and baghouse VS311) shall not exceed 2.1 pounds per hour based on a maximum throughput of 0.372 tons per hour.

(o) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the batch fermenter tank TK302 (filter FLT302 and baghouse VS311) shall not exceed 2.1 pounds per hour based on a maximum throughput of 0.372 tons per hour.

D.2.2 NESHAP for Pharmaceuticals Production Non-Applicability Determination [40 CFR Part 63, Subpart GGG]

As stated in the Permittee's Notification of Compliance Status Report (NOCSR), submitted on March 20, 2003, which was submitted to satisfy the requirements of 40 CFR 63.1260(f), the fermentation processes are not subject to any of the emission reduction requirements in 40 CFR 63.1253 through 63.1256. Any modification made to these processes that changes the information submitted in the Permittee's NOCSR must be reported to IDEM as required by Condition F.1.12. If a new process operating scenario will trigger applicable requirements not described in this permit or compliance with applicable requirements shall be demonstrated by methodologies not described in this permit, this permit must be revised pursuant to 326 IAC 2-7-12.

D.2.3 Volatile Organic Compounds (VOCs) [326 IAC 2-2-3]

The VOC emissions from the fermenter emission unit, identified as EU-3 operating under the flexible permit conditions in Section F.2 shall not exceed one hundred (100) tons per twelve (12) month period, rolled on a calendar month basis.

During the first calendar year after permit issuance; VOC emissions from the fermenter emission unit (EU-3) operating under the flexible permit conditions shall not exceed eight and one third

(8.33) tons multiplied by the number of calendar months the permit has been in effect.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for the required facilities and control devices (marked with a double asterisk in the above table), that are used for compliance with an applicable limitation or standard. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.

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

D.2.5 Testing Requirements [326 IAC 2-7-6(1) and (6)]

No emissions testing is required for the emission units described in this Section, at this time, but IDEM may require testing at any specific time when necessary to determine if the facility is in compliance. The requirements for conducting performance tests that may be required by IDEM in the future are described in Section C, Condition C.8 – Performance Testing.

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

D.2.6 Record Keeping Requirements

The Permittee shall maintain records of the Notification of Compliance Status Report (NOCSR), submitted to IDEM on March 20, 2003.

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.2.7 Modifications and Construction: Advanced Approval of Permit Conditions

(a) The Non Narasin emission units described in this D.2 Section are not subject to the advance approval permit conditions.

(b) The Permittee may modify Narasin emission units listed in this section of the permit without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the modified emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

(c) The Permittee may construct and install Narasin emission units of the types described in this D.2 section without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the new emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

D.2.8 Leak Detection and Repair

Leak Detection and Repair requirements associated with Narasin emission limits listed in this Section D.2 are specified in section E.3.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: AHM - Product Recovery Operations

(a) The following Unit IDs have applicable conditions in this D Section:

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C45A	BL410	8	RECYCLE BLENDER	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	CENT401 B*	8	CENTRIFUGE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	CENT401 C*	8	CENTRIFUGE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	COS401 D	8	SCREW CONVEYOR	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	COS420A	8	SCREW CONVEYOR	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	COS420L	8	SCREW CONVEYOR	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	COS421A *	8	SCREW CONVEYOR	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	COS421L *	8	SCREW CONVEYOR	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	D420	8	DRYER	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	D421	8	DRYER	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	EV450*	8	EVAPORATOR	PVC45AAC460	Vent Condenser HE450E, Carbon Adsorber CA460**	180	Gallons
C45A	SM410A	8	SCREW CONVEYOR MIXER	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45	TK370A*	9	NEW AMYL TANK	PVC45TK370A		38,265	Gallons
C45	TK370B*	9	NEW AMYL TANK	PVC45TK370B		20,834	Gallons
C45A	TK401*	8	WASH ALCOHOL HOLDING TANK	PVC45AAC460	Carbon Adsorber CA460**	3,620	Gallons

C45A	TK401G*	8	STORAGE TANK	PVC45AAC460	Carbon Adsorber CA460**	1,342	Gallons
C45A	TK450N*	8	STORAGE TANK	PVC45AAC460	Carbon Adsorber CA460**	36	Gallons
C45	VS156	No	TRANSFER BAGHOUSE	PVC45AC156A		N/A	N/A
C45	VS173	No	TRANSFER BAGHOUSE	PVC45AC173		N/A	N/A
C45	VS174	No	TRANSFER BAGHOUSE	PVCAC174A/174B		N/A	N/A
C45A	VS400*	5	TRANSFER BAGHOUSE	PVC45AAC400A		N/A	N/A
C45A	VS420B*	8	TRANSFER BAGHOUSE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	VS421B*	8	TRANSFER BAGHOUSE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	VS480A*	8	TRANSFER BAGHOUSE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	VS480B*	8	TRANSFER BAGHOUSE	PVC45AAC460	Carbon Adsorber CA460**	N/A	N/A
C45A	CENT 114A	No	CENTRIFUGE	PVC45AC103	Carbon Adsorber CA103**	N/A	N/A
C45A	CENT 115A	No	CENTRIFUGE	PVC45AC103	Carbon Adsorber CA103**	N/A	N/A
C45A	CENT 117A	No	CENTRIFUGE	PVC45AC103	Carbon Adsorber CA103**	N/A	N/A
C45A	COS109 H	No	SCREW CONVEYOR	PVC45AC103	Carbon Adsorber CA103**	N/A	N/A
C45A	COS109J	No	SCREW CONVEYOR	PVC45AC103	Carbon Adsorber CA103**	N/A	N/A
C45	EV101	8	EVAPORATOR	PVC45AAC460	Carbon Adsorber CA460**	9,000	Gallons
C45A	TK118A	No	CENTRIFUGE TANK	PVC45AC103A	Carbon Adsorber CA103**	610	Gallons
C45	TK350C*	8	RECYCLED AMYL TANK	PVC45TK350C		20,834	Gallons
C45	TK350D*	8	RECYCLED AMYL TANK	PVC45TK350D		20,834	Gallons
C45	TK360C*	No	RECYCLED AMYL TANK	PVC45TK360C		20,834	Gallons
C45	TK361C*	No	RECYCLED AMYL TANK	PVC45TK361C		20,834	Gallons

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A “NO” indicates that the equipment is not associated with the Narasin Process.

(b) The following Unit IDs are not subject to applicable requirements, and are listed only for informational

purposes

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C45	EV002	No	EVAPORATOR	PVC45EV002		9,000	Gallons
C45	TK407*	No	CONTENTS EVAPS CLEANING	PVC45AAC407		15,000	Gallons
C45	TK408*	8	CONTENTS EVAPS CLEANING	PVC45AAC408		15,000	Gallons
C45	C24*	No	CENTRIFUGE	N/A		N/A	N/A
C45	CENT116*	No	CENTRIFUGE	N/A		N/A	N/A
C45	COL201*	No	DISTILLATION COLUMN	PVC45TK201		2,100	Gallons
C45	COL204*	8	DISTILLATION COLUMN	PVC45TK204		3,800	Gallons
C45	COL219*	No	DISTILLATION COLUMN	PVC45TK219		3,800	Gallons
C45	COS109A	No	SCREW CONVEYOR	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	COS109B*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS109D*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS109G*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS153*	8	SCREW CONVEYOR	PVC45COS153	Vent Sock VS153B	N/A	N/A
C45	COS160A*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS160B*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS260*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	D160/VLS160	No	DRYER/VAPOR-LIQUID SEPARATOR	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	D260/VLS260	No	DRYER/VAPOR-LIQUID SEPARATOR	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	D16/VS16*	No	DRYER/TRANSFER BAGHOUSE	PVC45AC016A		N/A	N/A
C45	DP17*	No	DRUM PACKER	PVC45AC18	Baghouse VS18	N/A	N/A
C45	EV108*	No	EVAPORATOR	PVC45EV108		1,000	Gallons
C45	EV202*	No	EVAPORATOR	PVC45EV202		937	Gallons
C45	FIL109	No	FILTER BELT	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	VF109*	No	VIBRATORY FEEDER	PVC45AC18	Baghouse VS18	N/A	N/A
C45	H107*	No	HOPPER	PVC45AC18	Baghouse VS18	N/A	N/A
C45	SCF160*	No	SCREW CONV. FEEDER	N/A		N/A	N/A
C45	SCF260*	No	SCREW CONV. FEEDER	N/A		N/A	N/A

C45	SCR17*	No	SCREENER	PVC45AC18	Baghouse VS18	N/A	N/A
C45	SM109*	No	SCREW CONV. MIXER	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	SM153	No	SCREW CONVEYOR MIXER	PVC45SM153	Vent Sock VS153	N/A	N/A
C45	TK2A*	No	AMYL & WATER TK	N/A		50	Gallons
C45	TK8A*	No	PRODUCTION TK EV 202	PVC45ATK008A		3,000	Gallons
C45	TK8B*	No	PRODUCTION TK EV 202	PVC45ATK008B		3,000	Gallons
C45	TK8C*	No	RINSE WATER TANK	PVC45ATK008C		3,000	Gallons
C45	TK8D*	No	RINSE WATER TANK	PVC45ATK008D		3,000	Gallons
C45	TK8E*	No	RINSE WATER TANK	PVC45ATK008E		3,000	Gallons
C45	TK8F*	No	CLEANING SOLUTION	PVC45ATK008F		100	Gallons
C45	TK14A*	No	PROCESS TANK	PVC45TK14A		1,000	Gallons
C45	TK14B*	No	EVAP. TANK FOR COL 202	PVC45TK14B		1,000	Gallons
C45	TK14C*	No	PROCESS TANK	N/A		1,000	Gallons
C45	TK14D*	No	PROCESS TANK	PVC45TK14D		1,000	Gallons
C45	TK18A*	No	PRODUCTION TANK	PVC45TK18A		1,300	Gallons
C45	TK20*	No	PRODUCTION TANK	PVC45TK020		300	Gallons
C45	TK21*	No	SODIUM SLURRY TANK	PVC45AC103A	Carbon Adsorber CA103	1,100	Gallons
C45	TK22*	No	SODIUM SLURRY TANK	PVC45AC103A	Carbon Adsorber CA103	1,100	Gallons
C45	TK25*	No	CRYSTALS	PVC45AC103A	Carbon Adsorber CA103	500	Gallons
C45	TK107*	No	SOLVENT STORAGE TK	N/A		400	Gallons
C45	TK108B*	No	EVAP. TANK FOR EV 108	N/A		68	Gallons
C45	TK109A*	No	AMYL & WATER	N/A		300	Gallons
C45	TK109C*	No	PRODUCTION TANK	PVC45HE109C		432	Gallons
C45	TK114A*	No	CENTRIFUGE TANK	PVC45AC103A	Carbon Adsorber CA103	470	Gallons
C45	TK114B*	No	CENTRIFUGE TANK	PVC45AC103A	Carbon Adsorber CA103	470	Gallons
C45A	TK147/VS147*	10	STORAGE TANK	PVC45AAC147		50	tons

C45A	TK148/VS148*	10	STORAGE TANK	PVC45AAC148		50	tons
C45	TK149/VS150C*	5	STORAGE TANK	PVC45AAC149		16,638	kg
C45	TK151	No	STORAGE TANK	PVC45TK151	Vent Sock VS151A	N/A	N/A
C45	TK152*	8	MATERIAL HANDLING	PVC45TK152	Vent Sock VS152	N/AV	N/AV
C45	TK153*	8	MATERIAL HANDLING	PVC45TK153	Vent Sock VS153A	N/AV	N/AV
C45	TK201*	No	DECANTER FOR COL201	PVC45TK201		3,000	Gallons
C45	TK202C*	No	PROD. TK FOR EV202	N/A		450	Gallons
C45	TK204*	8	DECANTER FOR COL204	PVC45TK204		N/A	N/A
C45	TK219*	No	DECANTER FOR COL219	PVC45TK219		N/A	N/A
C45	TK350B*	8	STRIPPER FEED TANK	PVC45TK350B		20,834	Gallons
C45	TK360B*	No	STRIPPER FEED TANK	PVC45TK360B		20,834	Gallons
C45	TK361B*	No	STRIPPER FEED TANK	PVC45TK361B		20,834	Gallons
C45	TK350A*	8	DECANTER	PVC45TK350A		20,834	Gallons
C45	TK360A*	No	DECANTER	PVC45TK360A		38,265	Gallons
C45	TK361A*	No	DECANTER	PVC45TK361A		38,265	Gallons
C45	TK380*	No	CLEANING SOLUTION TANK	PVC45TK380		15,000	Gallons
C45	TK381*	No	CLEANING SOLUTION TANK	PVC45TK381		15,000	Gallons
C45A	TK490A*	No	WASTE TANK	PVC45ATK490A		3,500	Gallons
C45A	TK490B*	No	WASTE TANK	PVC45ATK490B		450	Gallons
C45	VS17*	No	VACUUM CLEANING BAGHOUSE	PVC45AC17		N/A	N/A
C45	VS172*	No	TRANSFER BAGHOUSE	PVC45AC172		N/A	N/A
C45	VS107A*	No	TRANSFER BAGHOUSE	PVC45AC107		N/A	N/A
C45	HE204C*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE204B*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE204A*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE204D*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE101H*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE101G*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE101B*	8	Heat Exchanger	N/A		N/A	N/A
C45	HE101A*	8	Heat Exchanger	N/A		N/A	N/A
C45	TK101A*	8	Tank	N/A		N/A	N/A
C45A	TK450A*	8	Tank	N/A		N/A	N/A
C45A	cos410B*	8	Coneyor	N/A		N/A	N/A

C45A	VF400*	8	Feeder	N/A		N/A	N/A
C45A	TK400C*	8	Hopper	N/A		N/A	N/A
C45A	TK450F*	8	Tank	N/A		N/A	N/A
C45A	HE450L*	8	Heat Exchanger	N/A		N/A	N/A
C45A	HE450P*	8	Heat Exchanger	N/A		N/A	N/A
C45A	HE420C*	8	Heat Exchanger	N/A		N/A	N/A
C45A	HE420J*	8	Heat Exchanger	N/A		N/A	N/A
C45A	HE421C*	8	Heat Exchanger	N/A		N/A	N/A
C45A	HE421J*	8	Heat Exchanger	N/A		N/A	N/A
C45A	VLS420C*	8	Condensor/Sep/Receive	N/A		N/A	N/A
C45A	VLS421C*	8	Condensor/Sep/Receive	N/A		N/A	N/A
C45A	FLT480A*	8	Filter	N/A		N/A	N/A
C45A	FLT480B*	8	Filter	N/A		N/A	N/A
C45	TK460*	8	Tank	N/A		N/A	N/A
C45	HE460B*	8	condensor	N/A		N/A	N/A
C45	FLT460*	8	Filter	N/A		N/A	N/A

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A “NO” indicates that the equipment is not associated with the Narasin Process.

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

(a) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the transfer baghouse VS156 shall not exceed 7.86 pounds per hour based on a maximum throughput of 2.64 tons per hour.

(b) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the transfer baghouse VS173 shall not exceed 7.86 pounds per hour based on a maximum throughput of 2.64 tons per hour.

(c) Pursuant to 326 IAC 6-3-2, particulate matter (PM) emissions from the transfer baghouse VS174 shall not exceed 9.85 pounds per hour based on a maximum throughput of 3.70 tons per hour.

D.3.2 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6] [326 IAC 2-2-3]

(a) VOC emissions from the equipment routed to stack PVC45AAC460, shall be controlled by carbon adsorber CA460.

(b) The carbon adsorber CA460 shall be operating at all times that the associated equipment is being operated. However, if there is a malfunction of the carbon adsorber CA460, the Permittee may finish processing any material that has entered equipment listed in this Section.

(c) Carbon adsorber CA460 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 30 parts per million (ppmv). These limitations shall be based on a 24-hour block average when the equipment ducted to CA460 is in operation.

(d) Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and significant source modification No. 165-32527-00009:

(i) VOC emissions from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A shall be controlled by carbon adsorber CA103.

(ii) The carbon adsorber CA103 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppmv), based on a 24-hour block average when the equipment ducted to CA103 is in operation.

(iii) The carbon adsorber CA103 shall be operating at all times that the associated equipment is being operated, unless otherwise provided by the following;

In the event of a failure of the carbon adsorber CA103 system, emissions shall be reduced through the following work practices:

(A) Upon detection of the carbon adsorber CA103 system failure, the permittee shall stop the feed of materials to the centrifuges (Cent 114A, Cent115A, Cent 117A);

(B) For no more than 30 minutes after detection of the carbon adsorber CA103 system failure, the permittee may continue processing the remaining materials in the centrifuges (Cent 114A, Cent115A, Cent 117A), conveyors (COS 109H, COS 109J), and tank 118A;

(C) No new material may be introduced into the centrifuges (Cent 114A, Cent115A, Cent 117A) until the carbon adsorber CA103 system resumes normal operation; and

(D) The provisions in Section D.3.2(d)(iii)(A-C) shall apply to no more than 10 hours of failure per twelve (12) consecutive month period with compliance determined at the end of each month.

(iv) The BACT for fugitive VOC emissions shall be use of an Auditory, Visual, and Olfactory (AVO) Monitoring program for leaks as described in Section E.3.1.

D.3.3 Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]

(a) VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed thirty (30) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) During the first calendar year after permit issuance, VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed 2.5 tons multiplied by the number of calendar months the permit has been in effect.

Compliance with these limits shall limit the potential VOC emissions from the centrifuges, fugitive VOC emissions and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations to less than 40 tons per year and render the requirements of 326 IAC 2-2 not applicable to this modification.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for the CA460 and CA103 carbon adsorbers, which are used for compliance with an applicable limitation or standard. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.

Compliance Determination Requirements

D.3.5 VOC Emission Limits Determination

The permittee shall determine actual VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A for each calendar month by employing the following techniques:

(1) VOC measurement: The requirements for measuring VOC concentrations in the exhaust gas are described in Condition D.3.7(b).

(2) Exhaust flow rate measurement: The requirements for measuring exhaust gas flow rate are described in Condition D.3.7(c).

(3) Emission calculation: The Permittee shall calculate VOC emissions by using VOC concentration data and exhaust gas flow rate.

(4) Data substitution:

(A) During periods of CEMS calibration, the permittee shall substitute in one minute increments, the last valid VOC concentration measurement obtained prior to the calibration in lieu of actual readings from the VOC CEMS.

(B) During periods of flow meter calibration, the Permittee shall substitute in one minute increments, the last valid gas flow rate measurement obtained prior to the calibration in lieu of actual readings from the flow meter.

(C) During periods of CEMS maintenance, malfunction, or repair; other periods of invalid VOC data collection; or any periods when VOC CEMS may not be operating and its operation is not required for compliance the Permittee shall substitute the applicable concentration based limit in lieu of actual readings from the VOC CEMS.

(D) During periods of flow meter maintenance, malfunction, or repair; other periods of invalid gas flow rate data collection; or any periods when flow meter may not be operating and its operation is not required for compliance, the Permittee shall substitute span value of the flow meter or the highest expected flow based on historical operation.

(E) Emissions during Carbon Adsorber CA103 bypass periods: The Permittee shall determine monthly VOC emissions during bypass periods using the uncontrolled VOC emission rate.

VOC Emissions (tons) = Uncontrolled VOC emissions (lb/hr) * (1 Ton/2000 lbs) * hours of carbon adsorber bypass

Where:

Uncontrolled VOC emission = 51.4 lb/hr

(5) The Permittee shall determine monthly fugitive VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A. Emissions for all component types except connectors will be calculated using the "SOCMI Average Emission factors" found at Table 2-1 of the EPA document "Protocol for Equipment Leak Emission Estimates," EPA-453/R-95-017, November 1995. As this document does not provide for any adjustment in connector emissions for the connector's service conditions, the connector emission factors developed by the Texas Council on Environmental Quality (TCEQ) for that purpose will be used. These are found in the TCEQ document "Emissions Factors for Equipment Leak Fugitive Components" (Addendum to RG-360A, January 2008) The emission control factor for an audible/visible/olfactory leak repair program will also be taken from TCEQ, in this case from the TCEQ document "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" (October, 2000).

(6) The VOC CEMS on the outlet of the CA103 Carbon Adsorber measures all VOC emissions emitted by C45 Monensin product recovery emission units, including those units not subject to the VOC emission limit described in Condition D.3.3. If the monitoring results for all units demonstrates compliance with the limit, then the emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A will be presumed to comply with this limit.

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

D.3.6 Testing Requirements [326 IAC 2-7-6(1) and (6)]

No emissions testing is required for the emission units described in this Section, at this time, but IDEM may require testing at any specific time when necessary to determine if the facility is in compliance. The requirements for conducting performance tests that may be required by IDEM in the future, are described in Section C, Condition C.8 – Performance Testing.

D.3.7 Continuous Emissions Monitoring System (CEMs) [326 IAC 2-1.1-11][326 IAC 3-5]

(a) The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorber CA460. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA460 is in operation.

(b) The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorber CA103. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA103 is in operation.

(c) The Permittee shall continuously monitor the air flow from the outlet of carbon adsorber CA103. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA103 is in operation.

(e) When the CA103 outlet CEMS is down for more than twenty-four (24) consecutive hours, the Permittee shall monitor and record the carbon adsorber bed temperature, regeneration steam flow, and operating time once every four (4) hours.

(f) When the CA103 inlet CEMS is down for more than twenty-four (24) consecutive hours, the Permittee shall monitor and record the liquid flowrate to the centrifuges (Cent 114A,

Cent 115A, and Cent 117A), the nitrogen flowrate to the centrifuges (Cent 114A, Cent 115A, and Cent 117A), and CA103 blower pressure once every four (4) hours.

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

D.3.8 Record Keeping Requirements

(a) The Permitte shall maintain records of the continuous monitoring required by Condition D.3.7. The records shall include data required by 326 IAC 3-5-6.

(b) Pursuant to 326 IAC 3-5-4, the Permittee shall maintain a complete, written continuous monitoring standard operating procedure (SOP) for the continuous emissions monitors. The CEMS SOP should contain, at a minimum, the items described in 326 IAC 3-5-4(a).

D.3.9 Reporting Requirement

(a) The Permittee shall prepare and submit a written report of excess emissions of the continuous emissions monitors each calendar quarter. The report must contain the information required by 326 IAC 3-5-7(4).

(b) The Permittee shall prepare and submit a quarterly report of actual emissions of VOC from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A as determined in accordance with Condition D.3.3.

(c) The Permittee shall prepare and submit a quarterly report of actual hours of carbon adsorber CA103 system failure from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A as determined in accordance with Condition D.3.2.

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.3.10 Modifications and Construction: Advanced Approval of Permit Conditions

(a) The Non Narasin emission units described in this D.3 Section are not subject to the advance approval permit conditions.

(b) The Permittee may modify Narasin emission unit equipment listed in this section of the permit without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the modified emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

(c) The Permittee may construct and install new Narasin emission units of the types described in this D.3 section without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the new emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

D.3.11 Leak Detection and Repair

Leak Detection and Repair requirements associated with Emission units listed in this Section D.3 are specified in section E.3.

D.3.12 Control Strategy for Volatile Organic Compounds (VOCs) [36 IAC 2-2-3]

To satisfy the BACT requirements for the Narasin process, the Permittee shall apply the control standards, monitoring, and recordkeeping required by D.3.2, D.3.7, D.3.8 no later than April 30, 2010 for the following:

(a) EV101 connection to carbon adsorber CA460;

(b) Any required modifications to CA460 and associated Continuous Emission Monitoring Systems.

Following April 30, 2010, all Narasin Emission Units will satisfy the BACT requirements.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: AHM - Product Finishing Operations

(a) The following Unit IDs have applicable conditions in this D Section:

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C47	BAG185*	11	BAGGER	PVC58AC190	Baghouse VS183, Carbon Adsorber CA190**	N/A	N/A
C47E	BAG813*	No	BAGGER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	BL808A*	No	BLENDER	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BL808B*	No	BLENDER	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BL809A*	No	BLENDER	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BL809B*	No	BLENDER	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BL811A*	No	BLENDER MIXER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BL811B*	No	BLENDER MIXER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	1,000	Cubic Ft.
C47E	BS812*	No	BAG SLITTER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	BS812A*	No	MANUAL REFEED HOPPER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/AV	N/AV
C47B	COD480*	No	DRAG CONVEYOR	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	COD481*	No	DRAG CONVEYOR	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	COD490*	No	DRAG CONVEYOR	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	COD491*	No	DRAG CONVEYOR	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47	COE185*	11	BUCKET ELEVATOR	PVC58AC190	Baghouse VS183, Carbon Adsorber CA190**	N/A	N/A

C47B	COE440*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS470, Carbon Adsorber CA520**	13,200	lb/hr
C47B	COE440A*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47B	COE450*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47B	COE451*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47E	COE805*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COE807*	No	BUCKET ELEVATOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47	COS185*	11	SCREW CONVEYOR	PVC58AC190	Baghouse VS183, Carbon Adsorber CA190**	N/A	N/A
C47E	COS458*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS805A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS805B*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS805C*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS805D*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS806A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS806B*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS806C*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS806D*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS807*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS807A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A

C47E	COS808*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS809*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	COS810A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS810B*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS810C*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS810D*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS810E*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS811A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	COS811B*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	COS811C*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	COS812A*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS812B*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	COS813*	No	SCREW CONVEYOR	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47	CY006*	11	CYCLONE SEPARATOR	PVC58AC190	Baghouse VS18, Carbon Adsorber CA190**	N/A	N/A
C47	CY008*	11	CYCLONE SEPARATOR	PVC58AC190	Baghouse VS17, Carbon Adsorber CA190**	N/A	N/A
C47B	CY461*	No	CYCLONE SEPARATOR	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47B	CY462*	No	CYCLONE SEPARATOR	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47B	CY471*	No	CYCLONE SEPARATOR	PVC59AC520	Baghouse VS470, Carbon Adsorber CA520**	660	lb/hr

C47	DS101*	5 No	TOTE BAG UNLOAD STATION	PVC47AC285	Baghouse VS285	6.5	Min/Tote
C47B	DS470*	No	TOTE BAG DRUM STATION	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47E	DS811*	No	TOTE BAG DRUM STATION	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	H101	11	HOPPER	PVC47EH101	Vent Sock H101SOCK	N/A	N/A
C47E	H102	No	HOPPER	PVC47EH102	Vent Sock H102SOCK	N/A	N/A
C47E	H103	No	HOPPER	PVC47EH103	Vent Sock H103SOCK	N/A	N/A
C47	H180	11	HOPPER	PVC47H180	Vent Sock H180SOCK	N/A	N/A
C47B	H410*	No	HOPPER	PVC59AC520	Vent Sock H410SOCK	N/A	N/A
C47B	H431*	No	HOPPER	PVC59AC520		N/A	N/A
C47E	H807*	No	HOPPER	PVC59AC520		N/A	N/A
C47E	H807A*	No	HOPPER	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	H812*	No	HOPPER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	60	Cubic Ft.
C47E	H813C*	No	HOPPER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47	PC006*	11	PELLET COOLER	PVC58AC190	Baghouse VS7, Carbon Adsorber CA190**	N/A	N/A
C47B	PC430*	No	PELLET COOLER	PVC59AC520	Baghouse VS430A, Carbon Adsorber CA520**	N/A	N/A
C47	PEL006*	11	PELLET MILL	PVC58AC190		N/A	N/A
C47B	PEL430*	No	PELLET MILL	PVC59AC520	Baghouse VS430A, Carbon Adsorber CA520**	N/A	N/A
C47B	RM440*	No	ROLLER MILL	PVC59AC520	Baghouse VS470, Carbon Adsorber CA520**	N/A	N/A
C47B	RM440A*	No	ROLLER MILL	PVC59AC520	Baghouse VS470, Carbon Adsorber CA520**	N/A	N/A
C47B	RM480*	No	ROLLER MILL	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	RM481*	No	ROLLER MILL	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	SCR450*	No	SCREENER	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A

C47B	SCR451*	No	SCREENER	PVC59AC520	Baghouse VS460, Carbon Adsorber CA520**	N/A	N/A
C47E	SCR813*	No	SCREENER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47B	SCR490*	No	SCREENER	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47B	SCR491*	No	SCREENER	PVC59AC520	Baghouse VS480, Carbon Adsorber CA520**	N/A	N/A
C47	SM182*	11	RIBBON MIXER	PVC58AC190	Baghouse VS183, Carbon Adsorber CA190**	1,000	Cubic Ft.
C47	SM280	No	SCREW MIXER	PVC47SM280	Vent Sock SM280SOCK	N/A	N/A
C47	TB185*	11	TOTE BAGGER	PVC58AC190	Baghouse VS183, Carbon Adsorber CA190**	N/A	N/A
C47E	TB813*	No	TOTE BAG FILLER	PVC59AC520	Baghouse VS815B, Carbon Adsorber CA520**	N/A	N/A
C47E	TK101A	11	STORAGE TANK	PVC47ETK101A		1,900	Cubic Ft.
C47E	TK101B	No	STORAGE TANK	PVC47ETK101B		1,900	Cubic Ft.
C47E	TK102A	No	STORAGE TANK	PVC47ETK102A		N/A	N/A
C47E	TK102B	No	STORAGE TANK	PVC47ETK102B		N/A	N/A
C47E	TK103	No	STORAGE TANK	PVC47EVS103A	Baghouse VS103**	1,900	Cubic Ft.
C47	TK11A*	5	STORAGE TANK	PVC47TK11A	Vent Sock TK11ASOCK**	2,000	Cubic Ft.
C47	TK11B*	5	STORAGE TANK	PVC47TK11B	Vent Sock TK11BSOCK**	2,000	Cubic Ft.
C47	TK132*	No	MINERAL OIL TANK	PVC47TK132		31,087	Gallons
C47	TK181	11	STORAGE TANK	PVC47TK181	Vent Sock TK181SOCK	1,897	Cubic Ft.
C47	TK201A	No	SILO	PVC47AC201	Vent Sock TK201ASOCK**	1,900	Cubic Ft.
C47	TK201B	No	SILO	PVC47AC201		1,900	Cubic Ft.
C47	TK270	No	SILO	PVC47TK270		N/AV	N/AV
C47B	TK420	No	STORAGE TANK	PVC47BVS420		1,900	Cubic Ft.
C47E	TK806A*	No	STORAGE TANK	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	2,000	Cubic Ft.
C47E	TK806B*	No	STORAGE TANK	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	2,000	Cubic Ft.

C47E	TK806C*	No	STORAGE TANK	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	2,000	Cubic Ft.
C47E	TK806D*	No	STORAGE TANK	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	2,000	Cubic Ft.
C47	VS001	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS010	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS017	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS018	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS180	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS182	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS183	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS201*	No	TRANSFER BAGHOUSE	PVC47AC201		N/A	N/A
C47	VS210*	No	TRANSFER BAGHOUSE	PVC47AC210		N/A	N/A
C47	VS004	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47	VS400	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS410	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS430	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS430A	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS431	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS460	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS470	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47B	VS480	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47	VS007	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	N/A	N/A
C47E	VS810A*	No	TRANSFER BAGHOUSE	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	VS810B*	No	TRANSFER BAGHOUSE	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	VS810C*	No	TRANSFER BAGHOUSE	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A

C47E	VS812*	No	TRANSFER BAGHOUSE	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	N/A	N/A
C47E	VS815A	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47E	VS815B	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47E	VS815C	No	TRANSFER BAGHOUSE	PVC59AC520	Carbon Adsorber CA520**	N/A	N/A
C47E	WB805	No	WEIGH BELT	PVC59AC520	Baghouse VS815A, Carbon Adsorber CA520**	N/A	N/A
C47E	WH810A*	No	WEIGH HOPPER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	500	Cubic Ft.
C47E	WH810B*	No	WEIGH HOPPER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	250	Cubic Ft.
C47E	WH810C*	No	WEIGH HOPPER	PVC59AC520	Baghouse VS815C, Carbon Adsorber CA520**	500	Cubic Ft.
C47C	VS601	11	TRANSFER BAGHOUSE (Transfer Cycle)	PVC58AC190	Carbon Adsorber CA190**	37	kg/min
C47C	VS602	11	TRANSFER BAGHOUSE (Transfer Cycle)	PVC58AC190	Carbon Adsorber CA190**	159	kg/min
			TRANSFER BAGHOUSE (Mix Cycle)			159	
C47C	VS603	11	TRANSFER BAGHOUSE	PVC58AC190	Carbon Adsorber CA190**	159	kg/min
C47C	BS612	11	BAG SLITTER	PVC58AC190	Carbon Adsorber CA190**	131	kg/min
C47C	FD603	11	FEEDER	PVC58AC190	Baghouse VS609**, Carbon Adsorber CA190**	119	kg/min
C47C	FD605	11	FEEDER	PVC58AC190	Baghouse VS609**, Carbon Adsorber CA190**	12	kg/min
C47C	TK610	11	TANK	PVC58AC190	Baghouse VS609**, Carbon Adsorber CA190**	205.5	kg/min
C47C	TK612	11	TANK	PVC58AC190	Baghouse VS609**, Carbon Adsorber CA190**	262	kg/min
C47C	BAG612	11	BAGGER	PVC58AC190	Baghouse VS609**, Carbon Adsorber CA190**	131	kg/min
C47C	FD604	11	FEEDER	PVC58AC190	Baghouse VS609**	38	kg/min
C47C	FD606*	11	FEEDER	PVC58AC190	Baghouse VS609**	35.2	kg/min

* Emission units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).

** Control devices marked with a double asterisk are required to meet an applicable limitation.
***A number indicates the Narasin Emission Unit that the equipment is associated with. A "NO" indicates that the equipment is not associated with the Narasin Process.

(b) The following Unit IDs are not subject to applicable requirements, and are listed only for informational purposes

Bldg.	Unit ID*	Emission Unit	Unit Description	Stack/Vent ID	Control**	Capacity	Units
C47	COS001*	11	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS101*	5	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS101A*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS101B*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS102*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS102A*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS102B*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47E	COS103*	No	SCREW CONVEYOR	N/A		N/A	N/A
C47	COS250A*	No	SCREW CONVEYOR	PVC47AC005B	Baghouse VS005B	N/A	N/A
C47	D250*	No	FLUIDIZED BED DRY	PVC47AC005B	Baghouse VS005B	N/A	N/A
C47	H012*	5	HOPPER	N/A		N/A	N/A
C47	H002*	11	HOPPER	N/A		N/A	N/A
C47	H201*	No	HOPPER	N/A		N/A	N/A
C47	H208*	No	HOPPER	PVC47AC005B	Baghouse VS005B	N/A	N/A
C47	H270*	No	HOPPER	N/A		N/A	N/A
C47	H003*	11	HOPPER	N/A		N/A	N/A
C47	HM006*	11	HAMMER MILL	N/A	Vent Sock HM6SOCK	N/A	N/A
C47	HM008*	11	HAMMER MILL	N/A	Vent Sock HM6SOCK	N/A	N/A
C47	HM250*	No	HAMMER MILL	PVC47AC005B		N/A	N/A
C47	SCR006*	11	SCREENER	N/A		N/A	N/A
C47	SM210A*	No	RIBBON MIXER	PVC47AC005B	Baghouse VS005B	N/A	N/A
C47	SM210B*	No	RIBBON MIXER	PVC47AC005B	Baghouse VS005B	N/A	N/A
C47	SCR250*	No	SCREENERS	PVC47AC005B		N/A	N/A
C47	SUMP003*	No	WASTE SUMP	N/A		4,283	Gallons
C47	TK001A*	11	STORAGE TANK	PVC47TK1A	Vent Sock TK1ASOCK	2,009	Cubic Ft.
C47	TK001B*	11	STORAGE TANK	PVC47TK1B	Vent Sock TK1BSOCK	1,850	Cubic Ft.
C47	TK002*	No	STORAGE TANK	N/A		80	Tons
C47	TK180*	11	STORAGE TANK	N/A		N/A	N/A
C47	TK310*	No	TANK	PVC47TK310		500	Gallons
C47E	TK320*	No	LIQUID WASTE TANK	PVC47TK320		2,400	Gallons
C47	TK320A*	No	TYLOSIN WASTEWATER TANK	PVC47TK320A		175	Gallons
C47	TK330*	No	JACKETED TANK	PVC47 TK330		22,000	Gallons

C47	TK340*	No	TYLOSIN HOT WATER TANK	PVC47TK340		200	Gallons
C47B	TK410A*	No	STORAGE TANK	N/A		36	Tons
C47B	TK410B*	No	STORAGE TANK	N/A		36	Tons
C47B	TK453*	No	WASTE SUMP, PROC. WATER	PVC47TK453		1,000	Gallons
C47	TK006*	11	TRANSFER TANK	N/A		N/A	N/A
C47E	TK803*	No	VEGETABLE OIL TANK	N/A		8,000	Gallons
C47E	TK803A*	No	VEGETABLE OIL TANK	PVC47ETK803A		125	Gallons
C47E	TK804A*	No	MINERAL OIL TANK	PVC47ETK804A		125	Gallons
C47	VS005B*	No	TRANSFER BAGHOUSE	PVC47AC005B		N/A	N/A
C47	VS011*	5	TRANSFER BAGHOUSE	PVC47AC11		N/A	N/A
C47E	VS101*	5	TRANSFER BAGHOUSE	PVC47EAC101A		N/A	N/A
C47E	VS102*	No	TRANSFER BAGHOUSE	PVC47EAC102A		N/A	N/A
C47	VS013*	No	VACUUM CLEANING BAGHOUSE	PVC47AC13		N/A	N/A
C47	VS170A*	No	VACUUM CLEANING BAGHOUSE	PVC47AC170A		N/A	N/A
C47	VS220*	No	TRANSFER BAGHOUSE	PVC47AC220		N/A	N/A
C47	VS270*	No	TRANSFER BAGHOUSE	PVC47AC270		N/A	N/A
C47	VS280*	No	TRANSFER BAGHOUSE	PVC47AC280		N/A	N/A
C47	VS285*	No	TRANSFER BAGHOUSE	PVC47AC285		N/A	N/A
C47B	VS510*	No	VACUUM CLEANING BAGHOUSE	PVC47BAC510		N/A	N/A
C47E	VS815D*	No	VACUUM CLEANING BAGHOUSE	PVC47EAC815D		N/A	N/A
C47C	VS617*	No	VACUUM CLEANING BAGHOUSE	PVC47CAC617		NA	NA
C47C	BL601A*	11	BLENDING SILO (Transfer Cycle)	PVC47CBL601A		37	kg/min
C47C	BL601B*	11	BLENDING SILO (Transfer Cycle)	PVC47CBL601B		37	kg/min
C47C	BL602A*	11	BLENDING SILO (Transfer Cycle)	PVC47CBL602A		159	
			BLENDING SILO (Mix Cycle)			159	kg/min
C47C	BL602B*	11	BLENDING SILO (Transfer Cycle)	PVC47CBL602B		159	
			BLENDING SILO (Mix Cycle)			159	kg/min
C47C	VS604*	11	TRANSFER BAGHOUSE	PVC47CC604		50	kg/min
C47C	BS606	11	BAG SLITTER	PVC47CBS606		47	kg/min

C47	TK005	11	Tank	N/A		N/A	N/A
C47	H182	11	Hopper	N/A		N/A	N/A
C47	SCR185A	11	Screener	N/A		N/A	N/A
C47	TK185A	11	Tank	N/A		N/A	N/A
C47	BS140	11	Bag Slitter	N/A		N/A	N/A
C47	COE140	11	Conveyor	N/A		N/A	N/A
C47C	HS612	11	Heat Selaer	N/A		N/A	N/A
C47C	NS612	11	Neck Stretcher	N/A		N/A	N/A
C47C	COE605	11	Conveyor	N/A		N/A	N/A
C47C	COE612	11	Conveyor	N/A		N/A	N/A
C47C	TK608	11	Tank	N/A		N/A	N/A
C47C	SCR611	11	Screener	N/A		N/A	N/A
C47C	MX610	11	Mixer	N/A		N/A	N/A
C47C	COE606	11	Conveyor	N/A		N/A	N/A
C47C	TK606	11	Tank	N/A		N/A	N/A
C47C	DS607	11	Dump Station	N/A		N/A	N/A
C47C	COE607	11	Coneyor	N/A		N/A	N/A
C47C	H140	11	Hopper	N/A		N/A	N/A
C47C	FD607	11	Feeder	N/A		N/A	N/A

* Emission units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
***A number indicates the Narasin Emission Unit that the equipment is associated with. A “NO” indicates that the equipment is not associated with the Narasin Process.

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

Pursuant to 326 IAC 6-3-2, C47 finishing process equipment shall be limited as follows:

Condition Subpart	Unit ID	Stack/Vent ID	Maximum Process Weight Rate (tons/hr)	Emissions Limitation (lb/hr)
a.	H101	PVC47EH101	12.0	21.7
b.	H102	PVC47EH102	9.60	18.7
c.	H103	PVC47EH103	24.0	34.5
d.	SM280	PVC47SM280	0.66	3.11
e.	TK101A	PVC47ETK101A	6.00	13.6
f.	TK101B	PVC47ETK101B	6.00	13.6
g.	TK102A	PVC47ETK102A	4.80	11.7
h.	TK102B	PVC47ETK102B	4.80	11.7
i.	TK103	PVC47EVS103A	24.0	34.5
j.	TK11A	PVC47TK11A	0.06	0.59
k.	TK11B	PVC47TK11B	0.06	0.59
l.	TK181	PVC47TK181	0.79	3.49
m.	TK201A	PVC47AC201	0.47	2.45
n.	TK201B	PVC47AC201	0.47	2.45
o.	TK270	PVC47TK270	0.66	3.11
p.	TK420	PVC47BVS420	0.03	0.36
q.	VS201	PVC47AC201	0.47	2.45
r.	VS210	PVC47AC210	0.47	2.45
s.	H180	PVC47H180	1.57	5.55
t.	FD603	PVC58AC190	7.85	16.31
u.	FD605	PVC58AC190	0.79	3.51
v.	TK610	PVC58AC190	13.56	23.52
w.	TK612	PVC58AC190	17.29	27.68
x.	BAG612	PVC58AC190	8.65	17.40
y.	FD604	PVC58AC190	2.51	7.59
z.	FD606	PVC58AC190	2.32	7.21
aa	DS101	PV47AC285	4.78	11.7

D.4.2 Best Available Control Technology (BACT) [326 IAC 2-2-3] [326 IAC 8-1-6] [SSM 165-12309] [SSM 165-25636-00009]

(a) VOC emissions from the equipment routed to stack PVC59AC520, shall be controlled by carbon adsorber CA520.

(b) The carbon adsorber CA520 shall be operating at all times that the associated equipment is being operated. However, if there is a malfunction of the carbon adsorber CA520, the Permittee may finish processing any material that has entered the pellet mill PEL430.

(c) Carbon adsorber CA520 shall reduce VOC emissions by ninety-five percent (95%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppm). These limitations shall be based on a 3-hour block average.

(d) VOC emissions from the equipment routed to stack PVC58AC190, as described in the facility description above, shall be controlled by carbon adsorber CA190.

(e) The carbon adsorber CA190 shall be operating at all times that the associated equipment is being operated. However, if there is a malfunction of the carbon adsorber CA190, the Permittee may finish processing any material that has entered the pellet mill PEL006.

(f) Carbon adsorber CA190 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppmv). These limitations shall be based on a 24-hour block average when the equipment vented to CA190 is in operation.

D.4.2.1 PM and PM10 Control Requirements

(a) The PM and PM10 emissions from feeders FD603, FD604, FD605, and FD606; tanks TK610 and TK612; waste drum; and bagger BAG612 shall be controlled by baghouse VS609.

(b) Baghouse VS609 shall be operated at all times that the equipment specified in Condition D.4.2.1(a) is being operated. However, if there is a malfunction of Baghouse VS609, the Permittee may finish processing any material that has entered the pellet mill PEL006.

(c) Baghouse VS609 shall reduce particulate matter emissions by 99.9%. This limitation shall be based on a 1-hour block average. Compliance with this condition shall limit the total PM and PM10 emissions to less than 25 and 15 tons/year, respectively, for the emission units described in the modification permitted under SSM 165-25636-00009, and will render 326 IAC 2-2 not applicable to the modification permitted under SSM 165-25636-00009.

D.4.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for the carbon adsorbers CA190 and CA520 and Baghouse VS609. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.

D.4.4 [Reserved]

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

D.4.5 Testing Requirements [326 IAC 2-7-6(1) and (6)]

No emissions testing is required for the emission units described in this Section, at this time, but IDEM may require testing at any specific time when necessary to determine if the facility is in compliance. The requirements for conducting performance tests that may be required by IDEM in the future, are described in Section C, Condition C.8 – Performance Testing.

D.4.6 Continuous Emissions Monitoring [326 IAC 2-1.1-11] [326 IAC 3-5]

The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorbers CA520 and CA190. Continuous monitoring operation is defined as the collection of at least one measurement for each successive 15-minute period.

D.4.7 Visible Emissions Observations [326 IAC 2-1.1-11]

The Permittee shall visually observe the emissions from TK103 exhaust while it is operating at least once per day. TK103 is considered to be operating only when raw materials are being unloaded into the tank. If abnormal emissions are observed, the Permittee shall follow Response to Abnormal or Out-of-Range Compliance Monitoring Measurements in Section C.

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

D.4.8 Record Keeping Requirements

(a) The Permittee shall maintain records of the continuous monitoring required by Condition D.4.6. The records shall include the data required by 326 IAC 3-5-6.

(b) The Permittee shall maintain records of the visible emissions observations required by Condition D.4.7.

(c) Pursuant to 326 IAC 3-5-4, the Permittee shall maintain a complete, written continuous monitoring standard operating procedure (SOP) for the continuous emissions monitors. The CEMS SOP should contain, at a minimum, the items described in 326 IAC 3-5-4(a).

(d) Reserved

D.4.9 Reporting Requirements

(a) Reserved

(b) The Permittee shall prepare and submit a written report of excess emissions of the continuous emissions monitors each calendar quarter. The report must contain the information required by 326 IAC 3-5-7(4).

D.4.10 Reserved

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.4.11 Modifications and Construction: Advanced Approval of Permit Conditions

(a) The Non Narasin emission units described in this D.4 Section are not subject to the advance approval permit conditions.

(b) The Permittee may modify Narasin emission units listed in this section D.4 of the permit without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the modified emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

(c) The Permittee may construct and install new Narasin emission units of the types described in this D.4 section without obtaining a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2), provided the new emission units are subject to the same applicable requirements listed in this D section, and the Permittee shall comply with the Change Management and Flexible Permit provisions in Section F.2 of this permit.

D.4.12 Leak Detector and Repair

Leak Detection and Repair requirements associated with Narasin Emission units listed in D.4 are specified in section E.3

D.4.13 Control Strategy for Volatile Organic Compounds (VOCs) 326 IAC 2-2-3]

To satisfy the BACT requirements for the Narasin process, the Permittee shall apply the control standards, monitoring, and recordkeeping required by D.4.2, D.4.6, D.4.8 no later than April 30, 2010 for the following:

(a) Any required modifications to CA190 and associated Continuous Emission Monitoring Systems.

Following April 30, 2010, all Narasin Emission Units will satisfy the BACT requirements.

SECTION D.5 [Reserved]

Emissions Unit Description:

(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.5.1 through D.5.5 [Reserved]

Testing and Monitoring Requirements

D.5.6 [Reserved]

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

D.5.7 [Reserved]

SECTION D.6 [Reserved]

Emissions Unit Description:

(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.6.1 through D.6.5 [Reserved]

Testing and Monitoring Requirements

D.6.6 [Reserved]

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

D.6.7 [Reserved]

SECTION D.7 [Reserved]

Emissions Unit Description:

(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.7.1 through D.7.4 [Reserved]

Testing and Monitoring Requirements

D.7.5 [Reserved]

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

D.7.6 [Reserved]

SECTION D.8 [Reserved]

Emissions Unit Description:

(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.8.1 [Reserved]

D.8.2 [Reserved]

D.8.3 [Reserved]

D.8.4 [Reserved]

Testing and Monitoring Requirements

D.8.5 [Reserved]

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

D.8.6 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.8.7 [Reserved]

SECTION D.9 [Reserved]

Emissions Unit Description:

(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.9.1 [Reserved]

D.9.2 [Reserved]

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

D.9.3 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.9.4 [Reserved]

SECTION D.10 [Reserved]

Emissions Unit Description:

(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.10.1 through D.10.2 [Reserved]

Testing and Monitoring Requirements

D.10.3 [Reserved]

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

D.10.4 [Reserved]

SECTION D.11 [Reserved]

Emissions Unit Description:

(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.11.1 [Reserved]

D.11.2 [Reserved]

D.11.3 [Reserved]

Testing and Monitoring Requirements

D.11.4 [Reserved]

D.11.5 [Reserved]

D.11.6 [Reserved]

D.11.7 [Reserved]

D.11.8 [Reserved]

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

D.11.9 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.11.10 [Reserved]

SECTION D.12 [Reserved]

Emissions Unit Description:

(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.12.1 [Reserved]

D.12.2 [Reserved]

D.12.3 [Reserved]

D.12.4 [Reserved]

D.12.5 [Reserved]

D.12.6 [Reserved]

D.12.7 [Reserved]

D.12.8 [Reserved]

D.12.9 [Reserved]

D.12.10 [Reserved]

D.12.11 [Reserved]

D.12.12 [Reserved]

Simultaneous Operation of T03/T04 Liquid Waste Incinerators

D.12.13 [Reserved]

Testing and Monitoring Requirements

D.12.14 [Reserved]

D.12.15 [Reserved]

D.12.16 [Reserved]

D.12.17 [Reserved]

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

D.12.18 [Reserved]

D.12.19 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.12.20 [Reserved]

SECTION D.13 [Reserved]

Emissions Unit Description:

(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.13.1 through D.10.7 [Reserved]

Testing and Monitoring Requirements

D.13.8 through D.13.12 [Reserved]

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

D.13.13 [Reserved]

SECTION D.14 [Reserved]

Emissions Unit Description:

(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.14.1 [Reserved]

D.14.2 [Reserved]

D.14.3 [Reserved]

D.14.4 [Reserved]

Testing and Monitoring Requirements

D.15.5 [Reserved]

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

D.14.6 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.14.7 [Reserved]

SECTION D.15 [Reserved]

Emissions Unit Description:

(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.15.1 [Reserved]

D.15.2 [Reserved]

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

D.15.3 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-12 and 326 IAC 2-2]

D.15.4 [Reserved]

SECTION D.16 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

(a) Cold-cleaning organic solvent degreasing operations that do not exceed 145 gallons of solvent usage per 12 months, except if subject to 326 IAC 20-6.

(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.16.1 Cold-Cleaner Degreasers Constructed between January 1, 1980 and July 1, 1990 [326 IAC 8-3-2]

For each cold-cleaner degreaser constructed between January 1, 1980 and July 1, 1990, the Permittee shall:

(1) Equip the cleaner with a cover;

(2) Equip the cleaner with a facility for draining cleaned parts;

(3) Close the degreaser cover whenever parts are not being handled in the cleaner;

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label summarizing the operating requirements;

(6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.16.2 Cold-Cleaner Degreasers Constructed after July 1, 1990 [326 IAC 8-3-5]

For each cold-cleaner degreaser constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than 2 kPa (15 mm Hg or 0.3 psi) measured at 38°C (100°F);

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in Condition D.16.2(6).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one of the following control devices if the solvent volatility is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F), or if the solvent is heated to a temperature greater than 48.9°C (120°F):

(A) A freeboard that attains a freeboard ratio of 0.75 or greater.

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

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

(6) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:

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

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

(C) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-7-12 and 326 IAC 2-2]

D.16.3 Modifications and Construction: Advance Approval of Permit Conditions

The emission units described in this D section are not subject to the advance approval permit conditions

SECTION E.1 LEAK DETECTION AND REPAIR (LDAR) CONDITIONS FOR BPM PROCESS SYSTEM COMPONENTS (RESERVED)

Emissions Unit Description:

(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)]

E.1.1 and E1.2 [Reserved]

E.1.3 [Reserved]

SECTION E.2 LEAK DETECTION AND REPAIR (LDAR) CONDITIONS FOR WASTE SYSTEM COMPONENTS (RESERVED)

Emissions Unit Description:

(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)]

E.2.1 [Reserved]

E.2.2 [Reserved]

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

E.2.3 [Reserved]

Modifications and Construction Requirements [326 IAC 2-7-10.5, 326 IAC 2-7-12 and 326 IAC 2-2]

E.2.4 [Reserved]

SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

The Narasin production areas:

- Fermentation Batch Make-up (EU-1)
- Fermentation Bump Tanks (EU-2)
- Fermenters (EU-3)
- Fermentation Harvest Tanks (EU-4)
- Dry Raw Materials Unloading and Storage (EU-5)
- Liquid Raw Materials Unloading and Storage (EU-6)
- Fermentation Vacuum Cleaning (EU-7)
- Recovery Process (EU-8)
- New Amyl Alcohol Unloading and Storage (EU-9)
- New Clay Unloading and Storage (EU-10)
- Finishing Process (EU-11)

The Monensin production areas:

- The following recovery process equipment: Cent114A, Cent115A, Cent117A, COS109H, COS109J, TK118A.

(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)]

Section E.3.1 LEAK DETECTION AND REPAIR (LDAR) FOR PROCESS EQUIPMENT INCLUDE IN EMISSION UNIT

(a) Applicability: The provisions of this section apply to pumps, agitators, valves, and connectors identified in the emissions unit description for this section that are intended to operate in volatile organic compound (VOC) service 300 hours or more during the calendar year. Each piece of equipment that can reasonably be expected to be in VOC service is presumed to be in VOC service unless the Permittee demonstrates that the piece of equipment is not in VOC service. 40 CFR 63.180(d) shall apply.

(1) Lines and equipment not containing process fluids are not subject to the provisions of this section. Utilities, and other nonprocess lines, such as heating and cooling systems which do not combine their materials with those in the processes they serve, are considered to not contain process fluids.

(2) Equipment that is in vacuum service is excluded from the requirements of this section.

(3) Equipment that is in VOC service, but which is in such service less than 300 hours per calendar year, is excluded from the requirements of this section if it is identified as exempt.

(4) In VOC service as defined in E.3.1(c)(1) applies.

(b) Compliance schedule: for equipment which is in operation with LDAR requirements on or before the issuance of this permit, compliance is required as of the date of permit issuance. For

equipment which does not have LDAR requirements at the issuance of this permit, compliance is required within 60 days of permit issuance or April 30, 2010; whichever is later.

(c) Definitions: Except as itemized below, the definitions found at 40 CFR Part 63, Subpart GGG shall apply.

(1) In Volatile Organic Compound (VOC) service: means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of one or a combination of volatile organic compounds as determined according to the provisions of 40 CFR 63.180(d).

(2) Repaired: means that equipment

(A) Is adjusted, or otherwise altered to eliminate a leak as defined in this section, and

(B) Is visually inspected to confirm that the repair has abated the leak, or

(C) If the leak was confirmed by monitoring per Test Method 21, the equipment has been monitored using M21 to verify that emissions are below the applicable leak definition.

(D) M21 monitoring, verifying that emissions are below the leak applicable definition in (e)(1)(A)-(D), may be used to confirm repair of leaks identified by visual, audible, olfactory or other means.

(3) First attempt at repair: means the initial action(s) taken for the purpose of stopping or reducing leakage of VOC to the atmosphere. It does not include visual inspections or instrumental monitoring to confirm whether the attempt was successful.

(4) Method 21: The test method and specifications which appears at 40 CFR 63.180(b) and (c), which incorporates by reference 40 CFR Part 60, Appendix A, Test Method 21 as well as containing additional requirements.

(d) Equipment Identification: Equipment which is subject to the requirements of this section shall be identified such that it can be distinguished from equipment which is not subject. Identification may be done in the field, or by drawings or other means. Components are not required to be individually identified, and no list of component identification numbers is required to be kept.

(e) Leak Identification and Repair

(1) When evidence of a potential leak to the atmosphere is found by visual, audible, olfactory, or any other detection method; pumps, valves, agitators, and connectors, in heavy liquid service may be monitored within 5 calendar days using Method 21 to detect a leak. If Method 21 monitoring is used to detect a leak, the following leak definitions apply:

(A) Valves: 500 ppmv

(B) Pumps: 2000 ppmv

(C) Agitators: 10,000 ppmv

(D) Connectors: 500 ppmv

(2) If Method 21 monitoring is not done, a leak is detected on the date when the evidence of the leak was initially observed.

(3) When each leak is detected by visual, audible, or olfactory means, or by monitoring via Method 21, the following identification requirements apply:

(A) A readily visible marker, containing sufficient information to clearly designate which item of equipment is leaking, shall be attached, to the leaking equipment, or as near as is practicable and safe.

(B) The marker shall also indicate the date the leak was identified, and the individual who identified the leak. If an observation of visual, audible, or olfactory indications of a leak is confirmed as a leak via M21 monitoring, the date of the monitoring is the date the leak was identified, and the individual performing the monitoring is the individual who identified the leak. When a leak is identified by visual, audible, or olfactory observation, and M21 confirmation is not done, the individual who observed the indications of a leak is the individual who identified the leak, and the date of identification is the date the evidence of a leak was first observed.

(C) The identification may be removed after the equipment has been repaired.

(1) When each leak is detected,

(A) The leak shall be repaired as soon as practicable.

(B) A first attempt at repair shall be made not later than 5 calendar days after the leak is detected.

(C) The leak shall be repaired not later than 15 calendar days after the leak is detected.

(5) It is a violation of this section to fail to take action to repair a leak within the specified time. If action is taken to repair the leak within the specified time, failure of that action to successfully repair the leak is not a violation of this section. However, if the repairs are unsuccessful, a leak is detected and the permittee shall take further action as specified in (e)(3) above.

(6) Delay of Repair of equipment for which a leak has been detected is allowed if one of the conditions in (6)(A), (6)(B) or (6)(D) applies:

(A) The repair is technically infeasible without a process shutdown. The physical work to repair this equipment shall occur by the end of the next scheduled process shutdown.

(B) The owner or operator determines that repair personnel would be exposed to an immediate danger if attempting to repair without a process shutdown. The physical work to repair this equipment shall occur by the end of the next scheduled process shutdown.

(C) Repair, as defined in this section (i.e., including inspection or monitoring to confirm success), shall be completed either on the date of equipment restart, or within 15 VOC service days, where the equipment has been in VOC service at any point during the calendar day, after the leak was identified, whichever is later.

(D) The provisions for delay of repair at 40 CFR 63.171(b)-(e) shall also apply.

(f) Recordkeeping

(1) A record explaining how equipment subject to this section is identified such that it can be distinguished from equipment not subject to this section.

(2) For each leak detected:

(A) The date the leak was detected.

(B) Whether the leak was detected using M21 or by visual, audible, olfactory or other evidence.

(C) If the leak was detected using M21, the M21 reading that confirmed the leak.

(D) The individual who detected the leak.

(E) The date of the first attempt to repair the leak.

(F) The date the leak was repaired (whether this was successful or not). This will be the date of the visual, audible, olfactory or other inspection confirming repair of the leak, or the M21 test results confirming repair of the leak.

(G) The result of the visual, audible, olfactory or other inspection confirming repair of the leak, or the M21 test results confirming repair of the leak.

(H) “Repair delayed” and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak. The delay of repair conditions at 40 CFR 63.1255(g)(4)(v)(A) and (B) shall also apply.

(I) If repairs were delayed, dates when the equipment was not in VOC service during the delay of repair period.

(J) If repairs were delayed, dates of process shutdowns that occurred while the equipment was unrepaired.

(3) Records of exempt components: Information identifying equipment which is exempt from this section because is it in VOC service less than 300 hours per calendar year.

SECTION F.1 [Reserved]

Emissions Unit Description:

(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)]

F.1.1 [Reserved]

F.1.2 [Reserved]

F.1.3 [Reserved]

F.1.4 [Reserved]

F.1.5 [Reserved]

F.1.6 [Reserved]

F.1.7 [Reserved]

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

F.1.8 [Reserved]

F.1.9 [Reserved]

F.1.10 [Reserved]

F.1.11 [Reserved]

F.1.12 [Reserved]

F.1.13 [Reserved]

Other Flexible Permit Requirements

F.1.14 [Reserved]

F.1.15 [Reserved]

SECTION F.2 EMISSIONS UNIT OPERATION CONDITIONS
CHANGE MANAGEMENT AND FLEXIBLE PERMIT CONDITIONS FOR THE NARASIN PROCESS EQUIPMENT

Emissions Unit Description:

The information described in the following paragraphs is descriptive information and does not constitute enforceable conditions:

Section F.2 is applicable to process equipment directly associated with the Narasin production. Some of the equipment associated with Narasin production may be used to make other products (herein referred to as Non Narasin Process) when it is not making Narasin.

The Narasin production equipment that IS affected by the proposed modifications include:

- Fermentation Batch Make-up (Emission Unit: EU-1)
- Fermentation Bump Tanks (EU-2)
- Fermenters (EU-3)
- Fermentation Harvest Tanks (EU-4)
- Dry Raw Materials Unloading and Storage (EU-5)
- Liquid Raw Materials Unloading and Storage (EU-6)
- Fermentation Vacuum Cleaning (EU-7)
- Recovery Process (EU-8)
- New Amyl Alcohol Unloading and Storage (EU-9)
- New Clay Unloading and Storage (EU-10)
- Finishing Process (EU-11)

The areas and manufacturing processes that ARE NOT affected by the proposed modifications include:

- Non-Narasin Fermentation Operations
- Non-Narasin Recovery Operations
- Non-Narasin Finishing Operations Analytical Support Laboratories
- Boilers for steam production
- Utilities operations
- Waste Water Treatment Facilities.

(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)]

F.2.1 Emission Limits [326 IAC 2-2]

VOC emissions from the facilities operating under the flexible permit conditions shall not exceed three hundred (300) tons per 12-month period, rolled on a calendar month basis.

During the first calendar year after permit issuance; VOC emissions from the facilities operating under the flexible permit conditions shall not exceed twenty five (25) tons multiplied by the number of calendar months the permit has been in effect.

VOC emissions limits from the fermenter emission unit (EU-3) are included in Section D.2.3.

F.2.2 Site Modifications and Advance Approval of Modifications [326 IAC 2-7-5(9)] [326 IAC 2-7-5(16)]

The Permittee may make modifications described in subsection (a) below to the operations described in Section F.2 of this permit. If actual emissions do not exceed the limits in Section F.2.1, and the Permittee complies with the other provisions of this section, then the

Permittee is not required to obtain a source modification approval (otherwise required by 326 IAC 2-7-10.5), a Title V permit modification (otherwise required by 326 IAC 2-7-12), or a Prevention of Significant Deterioration permit (otherwise required by 326 IAC 2-2).

(a) Permitted Modifications
The Permittee may implement changes, including but not limited to, the following modifications in the Narasin Process Equipment (Emission Units 1 - 11) without triggering the administrative review processes described above:

(1) Process changes to the Narasin process, including but not limited to, raw material storage/utilization, process operating conditions, process operating steps, product specifications, final products manufactured;

(2) Changes to existing equipment in the Narasin process, including but not limited to, a physical change to existing equipment, reconstruction, or replacement of existing equipment. Equipment includes but is not limited to: Storage tanks/bins/silos, process tanks/bins/hoppers, cyclones, material transfer equipment/piping/ducting, evaporators, heat exchangers, condensers, columns, mills, coolers, screeners, mixers, feeders, baggers, heat exchangers, decanters, dryers, baghouses;

(3) Addition of new equipment to the Narasin process, including but not limited to, Storage tanks/bins/silos, process tanks/bins/hoppers, cyclones, material transfer equipment/piping/ducting, evaporators, heat exchangers, condensers, columns, mills, coolers, screeners, mixers, feeders, baggers, heat exchangers, decanters, dryers, baghouses;

(4) Reconstruction or replacement of existing production buildings.

(5) Each type of change included in Sections F.2.2(a)(1), F.2.2(a)(2), F.2.2(a)(3), and F.2.2(a)(4) could occur by itself, or in combination with one or more of the other types of changes.

(b) Advance Approval and Applicable Requirements

In addition to the emission limits identified in Condition F.2.1 of this permit, the emission limits and standards, testing and monitoring requirements, record keeping requirements, reporting requirements, and other permit conditions applicable to the type of equipment or operation being modified, replaced, reconstructed or installed are described in Sections D.2, D.3, and D.4 of this permit. Each modification will be subject to the relevant provisions of those permit conditions. If a modification would cause an applicable requirement that is not described in this permit to apply, the Permittee shall obtain a source modification approval if otherwise required by 326 IAC 2-7-10.5 and a Title V permit modification pursuant to 326 IAC 2-7-12.

F.2.3 Volatile Organic Compound (VOC) Emission Limit Determination

The Permittee shall determine actual annual emissions, in tons, each quarter by employing the following techniques:

(a) The following requirements apply to the Carbon Adsorbers CA460 and CA190:
(1) VOC measurement: The requirements for measuring VOC concentrations in the exhaust gas are described in Sections D.3 and D.4.
(2) Gas flow rate measurement: The Permittee shall measure the actual gas flow rate at the carbon adsorbers with a flow monitoring system, or determine it with engineering calculations.
(3) Emission calculation: The Permittee shall calculate VOC emissions by using the VOC concentration data and gas flow rate.

(4) Data substitution:
(A) During periods of CEMS calibration, the Permittee shall substitute in one minute increments, the last valid VOC concentration measurement obtained prior to the calibration in lieu of actual readings from the VOC CEMS.
(B) During periods of flow meter calibration, the Permittee shall substitute in one minute increments, the last valid gas flow rate measurement obtained prior to the calibration in lieu of actual readings from the flow meter.
(C) During periods of CEMS maintenance, malfunction, or repair; other periods of invalid VOC data collection; or any periods when VOC CEMS may not be operating and its operation is not required for compliance the Permittee shall substitute the applicable concentration based limit in lieu of actual readings from the VOC CEMS
(D) During periods of flow meter maintenance, malfunction, or repair; other periods of invalid gas flow rate data collection; or any periods when flow meter may not be operating and its operation is not required for compliance, the Permittee shall substitute span value of the flowmeter or the highest expected flow based on historical operation.

(5) Minimum data collection requirements:
The requirements for monitoring and recording VOC concentrations are described in Section D.3 and D.4.

(b) Emissions not vented to the Carbon Adsorbers CA460/CA190:
The Permittee shall determine monthly point source VOC emissions from emission units not vented through the carbon adsorbers. The Permittee may use engineering calculation methods based on ideal gas law equations, stoichiometry, or mass balance to estimate these emissions.

(c) Emissions during Carbon Adsorber CA460/CA190 bypass periods:
The Permittee shall determine monthly VOC emissions during bypass periods. The Permittee may use engineering calculation methods based on ideal gas law equations, stoichiometry, or mass balance to estimate these emissions.

(d) Fugitive Emissions:
(1) The Permittee shall determine monthly fugitive VOC emissions. Emissions for all component types except connectors will be calculated using the "SOCMI Average Emission factors" found at Table 2-1 of the EPA document "Protocol for Equipment Leak Emission Estimates," EPA-453/R-95-017, November 1995. As this document does not provide for any adjustment in connector emissions for the connector's service conditions, the connector emission factors developed by the Texas Council on Environmental Quality (TCEQ) for that purpose will be used. These are found in the TCEQ document "Emissions Factors for Equipment Leak Fugitive Components" (Addendum to RG-360A, January 2008) The emission control factor for an audible/visible/olfactory leak repair program will also be taken from TCEQ, in this case from the TCEQ document "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" (October, 2000).

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

F.2.4 Records and Reporting of Emissions

(a) The Permittee shall record and maintain records of all information necessary for estimating emissions including all measurements and calculations described in Conditions F.2.2 and F.2.3.

(b) The Permittee shall submit a quarterly report of actual emissions of VOC, as determined in accordance with Sections F.2.2 and F.2.3.

F.2.5 Records and Reporting of Site Modifications [326 IAC 2-7-5(16)] [326 IAC 2-7-20(a)][40 CFR 63.1259] [40 CFR 63.1260]

(a) Changes made pursuant to advance approval provisions:

The Permittee shall record and maintain records of all modifications that would have otherwise required a revision to this permit pursuant to 326 IAC 2-7-12 or a source modification approval if the provisions of 326 IAC 2-7-10.5 were applicable.

F.2.6 Notifications for Site Modifications [326 IAC 2-1.1-12(c) to (f)]

(a) The Permittee shall submit a notification for any modification that would have otherwise required a source modification approval if the provisions of 326 IAC 2-7-10.5 were applicable, to the address listed in Section C, Condition C.19 – General Reporting Requirements, at least ten (10) days before implementing the modification.

(b) The notification shall include the following information:
(1) The company name and address and source and permit identification numbers;
(2) A description of the physical or operational change, including an estimate of the potential to emit of the emissions associated with the change;
(3) An identification of the emission unit or units being changed on the layout diagram of the source;
(4) The schedule for constructing each physical change and implementing each operational change;
(5) Identification of any applicable requirements that are applicable to the physical or operational change and include any monitoring, record keeping, or reporting requirements;
(6) A statement for all regulated pollutants, except the pollutant for which the emissions limit has been established, that demonstrates that the physical or operational change will not trigger any federal or state permitting requirement for any regulated pollutant; and
(7) A statement that the physical or operational change will not result in emissions greater than the emission limits.

(c) This notification does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

Other Flexible Permit Requirements

F.2.7 Valid Period for Best Available Control Technology [326 IAC 2-2-3(4)]

The modifications that occur under this permit qualify as a single, ongoing phase of construction and modification to Clinton Laboratories. The BACT requirements established in Sections D.2, D.3, and D.4 shall remain valid over the entire period of this permit. If the time between consecutive modifications exceeds 18 months, the Permittee shall demonstrate that the initial BACT determination incorporated into the permit is still valid or propose new BACT requirements. Upon expiration of this permit, Major New Source Review (NSR) requirements (Prevention of Significant Deterioration and Nonattainment NSR) shall apply.

F.2.8 NSPS and NESHAP Pre-Construction Notification and Reviews

The provisions of this permit do not relieve the Permittee of the notification and pre-construction approval requirements found in 40 CFR 60.7, 40 CFR 61.07, 40 CFR 61.08, and 40 CFR 63.5. If the Permittee constructs, reconstructs, or modifies an affected facility in a manner that requires notification or pre-construction approval under 40 CFR 60.7, 40 CFR 61.07, 40 CFR 61.08, or 40 CFR 63.5, the Permittee shall comply with those requirements.

SECTION G PLANTWIDE APPLICABILITY LIMITATION REQUIREMENTS

Emissions Unit Description:

The entire plant site is subject to the plantwide applicability limitation (PAL) requirements described in this G Section

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

Source Wide Emission Limits [326 IAC 2-2.4-7(1)]

G.1.1 Emission limits [326 IAC 2-2.4-7(1)]

(a) Nitrogen oxides (NOx) emissions from the entire source shall not exceed 776 tons per 12 consecutive month period with compliance determined at the end of each month. This provision does not supersede any other NOx emission limits contained in this permit.

(b) Sulfur dioxide (SO_2) emissions from the entire source shall not exceed 2321 tons per 12 consecutive month period with compliance determined at the end of each month. This provision does not supersede any other SO2 emission limits contained in this permit.

General PAL requirements [326 IAC 2-2.4-1]

G.1.2 Major New Source Review Applicability [326 IAC 2-2.4-1(c)]

Any physical change in or change in the method of operation of this source is not a major modification for NOx or SO_2, and is not subject to the review requirements of 326 IAC 2-2 provided actual emissions of NOx and SO_2 from the entire source do not exceed the emission limits in Condition G.1.1 of this permit. This provision does not supersede or affect the Flexible Permit requirements in Section F of this permit.

G.1.3 General PAL requirements [326 IAC 2-2.4-7, 326 IAC 2-2.4-8, 326 IAC 2-2.4-9, 326 IAC 2-2.4-10, 326 IAC 2-2.4-11, 326 IAC 2-2.4-15]

(a) The requirements of this section G become effective on the issuance date of the significant permit modification containing the PAL requirements, and expire ten years after the issuance date of the significant permit modification containing the PAL requirements.

(b) If the permittee applies to renew this PAL at least six months prior to expiration of the PAL, but no earlier than eighteen months prior to the expiration of the PAL, then notwithstanding the expiration date in subsection G.1.3(a), the PAL shall continue to be effective until the revised permit with the renewed PAL is issued. The application must contain the elements described in 326 IAC 2-2.4-3 and 326 IAC 2-2.4-10.

(c) Once this PAL expires, if not otherwise renewed, then the requirements of 326 IAC 2-2.4-9 are applicable.

(d) The requirements for renewing this PAL are described in 326 IAC 2-2.4-10.

(e) The requirements for increasing the emissions limits described in Condition G.1.1 are described in 326 IAC 2-2.4-11.

(f) The requirements applicable to terminating or revoking this PAL are described in 326 IAC 2-2.4-15.

Testing and Monitoring Requirements [326 IAC 2-2.4-7(6) & (7)] [326 IAC 2-2.4-12]

G.1.4 Nitrogen Oxides (NO_X) Emission Limit Determination [326 IAC 2-2.4-7(6) & (7)] [326 IAC 2-2.4-12]

The Permittee shall determine actual annual emissions of NOx by employing the following techniques:

(a) The Permittee shall calculate NOx emissions from the C31 Boiler, in tons, each calendar month, by multiplying the amount of coal consumed in each calendar month by an NOx emission factor of 22 lb NOx/ton of coal burned.

(b) The Permittee shall calculate NOx emissions from burning natural gas in C21 Boilers 1, 2, and 3, in tons, each calendar month, by multiplying the amount of natural gas burned in each calendar month by an NOx emission factor of 100 lb NOx/million cubic feet of natural gas.

(c) The Permittee shall calculate NOx emissions from burning natural gas in C21 Boiler 4 and the C31 Boiler, in tons, each calendar month, by multiplying the amount of natural gas burned in each calendar month by an NOx emission factor of 280 lb NOx/million cubic feet of natural gas.

(d) The Permittee shall determine NOx emissions from the diesel engines, in tons, each calendar month by multiplying the actual hours of operation per calendar month for each diesel engine by emission factors listed in the table below.

Engine	NOx emission factor [lb/hr]
C24 Fire Pump 1	9.48
C24 Fire Pump 2	9.48
C44 Emergency Generator	17.60
C55 Emergency Generator	5.73
C79 Back up pump/generator	15.55

(e) When determining actual annual emissions of NOx, the Permittee shall include emissions occurring as a result of startups, shutdown, and malfunctions to the extent such emissions are greater than the emission factors expressed in (a) through (d) above.

G.1.5 Sulfur dioxides (SO_2) emission limit determination [326 IAC 2-2.4-7(6) & (7)][326 IAC 2-2.4-12]

The Permittee shall determine actual annual emissions of SO_2 by employing the following techniques:

(a) The Permittee shall calculate SO_2 emissions from the C31 Boiler, in tons, each calendar month, by multiplying the amount of coal consumed in each calendar month by an SO2 emission factor of 0.38*S lb SO_2/ton of coal burned, where S = the percent sulfur content of the coal as determined by Condition D.1.6.

(b) The Permittee shall calculate SO2 emissions from burning natural gas in the C31 Boiler and C21 Boilers 1, 2, 3 and 4, in tons, each calendar month, by multiplying the amount of natural gas burned in each calendar month by an SO2 emission factor of 0.6 lb SO2/million cubic feet of natural gas burned.

(c) The Permittee shall determine SO2 emissions from diesel engines, in tons, each calendar month, the Permittee shall calculate SO2 emissions from the diesel engines by multiplying the actual hours of operation per calendar month for each diesel engine by emission factors listed in the table below.

Engine	SO2 emission factor [lb/hr]
C24 Fire Pump 1	0.62
C24 Fire Pump 2	0.62
C44 Emergency Generator	1.16
C55 Emergency Generator	0.38
C79 Back up pump/generator	2.45

(d) When determining actual annual emissions of SO2, the Permittee shall include emissions occurring as a result of startups, shutdown, and malfunctions to the extent such emissions are greater than the emission factors expressed in (a) through (c) above.

G.1.6 Validation and Revalidation of emissions determination methods [326 IAC 2-2.4-12(i)]

(a) The Permittee shall revalidate the emissions determination methods described in Conditions G.1.4 and G.1.5 through performance testing or other scientifically valid means approved by the department no later than five years after the effective date of the PAL provisions.

(b) The Permittee shall conduct validation testing on the NOx emission factor for the C31 boiler no later than 6 months after the issuance of the significant permit modification establishing the PAL requirements. If the validation testing shows an emission factor that is greater than the factor described in Condition G.1.4(a), then Condition G.1.4(a) shall be revised to require the Permittee to use the emission factor that resulted from the validation testing.

Record keeping and reporting [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

G.1.7 Record keeping requirements [326 IAC 2-7-5(3)] [326 IAC 2-2.4-13]

(a) The Permittee shall retain a copy of all records necessary to determine compliance with the requirements of this G Section, including a determination of each emissions unit's twelve (12) month rolling total emissions, for five years from the date of the record.

(b) The Permittee shall retain a copy of the PAL permit application, any applications for revisions to the PAL, each annual compliance certification as required by Condition B.9 of this permit, and data relied on in the certification for the duration of the PAL plus five years.

G.1.8 Reporting requirements [326 IAC 2-7-5(3)] [326 IAC 2-2.4-14]

(a) The Permittee shall submit a report, containing the information described below, to the address listed in Section C – General Reporting Requirements, within thirty (30) days after the end of the calendar quarter being reported. This report requires the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). The report shall include the following information:

(1) The identification of the owner and operator of the facility and the permit number.

(2) Total emissions of NOx and SO_2, in tons per rolling 12 month period for each month in the reporting period, as determined by Conditions G.1.4 and G.1.5.

(3) All data relied upon, including but not limited to, any quality assurance or quality control data, in determining emissions.

(4) A list of any emissions units modified or added to the major stationary source during the reporting period.

(b) The procedures for reporting deviations from the requirements of this Section G, and the procedures for reporting emissions in excess of the limits described in Condition G.1.1 are described in Condition B.14. A report that describes emissions exceeding the PAL limits shall include the quantity of emissions emitted by the source. This term satisfies the requirements of 326 IAC 2-2.4-14(c).

(c) The Permittee shall submit to the department the results of any revalidation test or method within three months of completion of the test or method. These results do not require responsible official certification.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
PART 70 OPERATING PERMIT
CERTIFICATION

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009

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: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009

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), not later than four (**4**) daytime 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 not later than 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: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

Section G.1 –Plantwide Applicability Limitations Requirements
Quarterly Emission Limit Report

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009
Facility: Source wide
Parameter: Plantwide Emission Limits for NOx, and SO_2
PAL Limit:

Pollutant	(Tons/yr)
NOx	776
SO_2	2,321

The attached spreadsheet provides the monthly actual emissions for the PAL NOx and SO_2 limits. The information is used to determine compliance with the emission limits provided above. This emission summary report was:

Submitted by:_____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification that meets the requirements of 326 IAC 2-7-6(1) to complete this report.

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009

Quarter: Year: Pollutant	Actual Emission Estimates, tons								
	Month 1	Previous 11 Months	12-month Total	Month 2	Previous 11 Months	12-month Total	Month 3	Previous 11 Months	12-month total
C31 Boiler									
NOx									
SO_2									
C21 Boiler 1									
NOx									
SO_2									
C21 Boiler 2									
NOx									
SO_2									
C21 Boiler 3									
NOx									
SO_2									
C21 Boiler 4									
NOx									
SO_2									
C24 DFP01									
NOx									
SO_2									
C24 DFP02									
NOx									
SO_2									
C44 GEN01									
NOx									
SO_2									
C55 GEN01									
NOx									
SO_2									
C79 GEN01									
NOx									

Quarter: Year: Pollutant	Actual Emission Estimates, tons								
	Month 1	Previous 11 Months	12-month Total	Month 2	Previous 11 Months	12-month Total	Month 3	Previous 11 Months	12-month total
SO_2									
Site Total PAL Limits									
NOx									
SO_2									

Submitted by:_____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification that meets the requirements of 326 IAC 2-7-6(1) to complete this report.

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

Part 70 Quarterly Report

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009
Facility: Centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations
Parameter: VOC Emissions
Limit: shall not exceed 30 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

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

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

Part 70 Quarterly Report

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009
Facility: Centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations
Parameter: Hours of Bypass Events
Limit: shall not exceed 10 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER : **YEAR:**

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

Submitted by: _____
Title / Position: _____
Signature: _____
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: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009

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".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ 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:	
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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: _____

Attach a signed certification that meets the requirements of 326 IAC 2-7-6(1) to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Significant Source and Significant Permit Modification

Source Description and Location

Source Name:	**Eli Lilly and Company - Clinton Laboratories**
Source Location:	**10500 South State Road 63, Clinton, IN 47842**
County:	**Vermillion**
SIC Code:	**2833, 2834, 2879**
Operation Permit No.:	**T 165-27283-00009**
Operation Permit Issuance Date:	**October 16, 2009**
Significant Source Modification No.:	**165-32527-00009**
Significant Permit Modification No.:	**165-32546-00009**
Permit Reviewer:	**Josiah Balogun**

Existing Approvals

The source was issued Part 70 Operating Permit No.165-27283-00009 on October 16, 2009. The source has since received the following approvals:

(a) Significant Permit Modification No. 165-30354-00009*,* issued on July 19, 2011;

(b) Minor Source Modification No. 165-31344-00009*,* issued on January 24, 2012; and

(c) Minor Permit Modification No. 165-31347-00009*,* issued on March 21, 2012.

County Attainment Status

The source is located in Vermillion 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}	Attainment effective October 27, 1997, for the part of Clinton Township that includes sections 15, 16, 21, 22, 27, 28, 33, and 34. Unclassifiable effective November 15, 1990, for the remainder of Vermillion County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (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. Vermillion 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) $PM_{2.5}$
Vermillion 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. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$, NOx and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

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

Fugitive Emissions

Since this source is classified as a pharmaceutical operation, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Source Status

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	**Emissions** (ton/yr)
PM	> 100
PM_{10}	> 100
$PM_{2.5}$	> 100
SO_2	> 100
VOC	> 100
CO	> 100
NO_X	> 100
GHGs as CO_2e	----
HAPs	
Single HAPs	> 10
Total HAPs	> 25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, emissions of GHGs are equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

(c) These emissions are based upon Part 70 operating Permit Minor Permit Modification No. 165-31347-00009, issued on March 21, 2012.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Eli Lilly and Company - Clinton Laboratories on November 19, 2012, relating to VOC emissions from centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations. The following is a list of the modified emission unit(s) and pollution control device(s):

History

On January 13, 2012, Clinton Labs submitted an application for a minor source modification and a Title V minor permit modification to obtain authorization to install, among other things, three new centrifuges, two new conveyors, one new tank, and modify an existing conveyor in the C45 Monensin product recovery process. The new equipment would increase safety in these operations by significantly reducing fire and explosion risk.

In that application, Clinton Labs indicated that the potential emissions of VOC, as defined in 326 IAC 1-2-55, and the potential to emit VOCs, as defined in 326 IAC 2-1.1-1(12), from the new equipment in C45 was approximately 19 tons per year. Because of the manner the equipment is configured and operated, VOC emissions were not assigned to any individual piece of equipment, but instead were attributed to the entire set of interconnected equipment operating as a system. No other pollutants were expected to be emitted. In accordance with regulatory requirements, the emission estimates for the new equipment did not take into consideration the fact the emissions from the equipment would be vented to a carbon adsorption system that is operated on a voluntary basis. [Note: Between the time of the application submittal in January and the startup of the new equipment in C45, the carbon adsorption system for the Monensin operations in C45 was replaced with a new, more effective carbon adsorber – CA103. This new system is currently in operation as the VOC emissions control device for existing and new equipment in C45 Monensin recovery operation.]

The VOC emission estimates included in the January 13, 2012 application were based on measurements of amyl alcohol saturation levels and air flow rates in the existing centrifuges, conveyors and tanks that were being replaced by the new equipment. Amyl alcohol is the only VOC expected to be emitted by these processes since it is the only solvent used in C45 Monensin operations. Clinton Labs reasonably believed the VOC emissions from the new equipment would be the same as the VOC emissions from the existing equipment since the project was essentially an equipment replacement project involving equipment of comparable size and configuration. A detailed description of the emissions estimation process for the project is contained in the permit application Clinton Labs submitted in January 2012.

Because the potential emissions and the potential to emit were determined to be less than 25 ton/year for the new equipment, a minor source modification was determined to be the applicable permit review process, and no additional requirements were determined to apply to this project. As a result, no new permit conditions or modifications to existing permit requirements were deemed necessary for the project.

Upon review of Clinton Labs' application, IDEM issued minor source modification 165-31344-00009 on January 24, 2012 and minor Title V permit modification 165-31347-00009 on March 21, 2012.

After the new equipment was installed, Clinton Labs began a startup process that included voluntary emissions testing of the new equipment to verify the emission estimates included in the permit application. Amyl alcohol saturation levels and air flow rates in the new equipment were measured to estimate the potential to emit VOCs.

Through exhaustive testing and analysis of the new equipment, Clinton Labs has determined the VOC estimates from the equipment installed under minor source modification 165-31344-00009 are greater than originally estimated in the January 2012 application.

Enforcement Issues

IDEM is aware that Eli Lilly and Company - Clinton Laboratories did not apply for the proper permit for the modification to their Monensin Product Recovery Process. IDEM is reviewing this matter and will take the appropriate action.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Increase in PTE Before Controls of the Modification	
Pollutant	**Potential To Emit** (ton/yr)
PM	--
PM_{10}	--
$PM_{2.5}$	--
SO_2	--
VOC	227.60
CO	--
NO_X	--

This source modification is subject to 326 IAC 2-7-10.5 (g)(2) because it is a modification that is subject to 326 IAC 8-1-6 and the VOC PTE for the project is greater than 25 TPY. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because the modification requires a case by case determination of the emission limits.

Permit Level Determination – PSD or Emission Offset or Nonattainment NSR

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

	Potential to Emit (ton/yr)							
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**VOC**	**CO**	**NO_X**	**GHGs**
CENT 117A, CENT116, COS109A and COS109D	**--**	**--**	**--**	**--**		**--**	**--**	**--**
COS109H and COS109J	--	--	--	--		--	--	--
CENT114A & CENT115A,	--	--	--	--	30	--	--	--
Tank114A, Tank114B & Tank118A	--	--	--	--		--	--	--
Total for Modification	--	--	--	--	30	--	--	---
Significant Level	**25**	**15**	**10**	**40**	**40**	**100**	**40**	**75,000 GHGs as CO_2e**

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 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 centrifuges and associated equipment have pre-controlled emissions greater than 100 tpy for VOC and will utilize carbon adsorption to control VOC emissions in order to meet federally enforceable BACT emission limits. Compliance with the VOC limits will be demonstrated through use of VOC CEMS. Upon incorporation into a Title V permit, the use of CEMS is considered a continuous compliance determination method. Therefore, the BACT limits for VOC are exempt from CAM requirements in accordance with 40 CFR 64.2(b)(1)(vi).

(b) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(c) 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 modification.

State Rule Applicability Determination

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
The source is considered a major PSD source and the unrestricted potential to emit of this modification is greater than forty (40) tons of VOC per year, this source, however has elected to limit the potential to emit of this modification as follows:

(a) The VOC emissions from Cent 114A, Cent 115A, Cent 116A, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed thirty (30) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) During the first calendar year after permit issuance, VOC emissions from Cent 114A, Cent 115A, Cent 116A, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed 2.5 tons multiplied by the number of calendar months the permit has been in effect.

Compliance with these limits shall limit the potential VOC emissions from the centrifuges, fugitive VOC emissions and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations to less than 40 tons per year and render the requirements of 326 IAC 2-2 not applicable to this modification.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)
The uncontrolled VOC emissions from the centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations are more than 25 tons per year. Therefore, the centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations is subject to the requirements of 326 IAC 8-1-6.

(a) The VOC emissions from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A shall be controlled by carbon adsorber, identified as CA103.

(b) The carbon adsorber, identified as CA103 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppmv), based on a 24-hour block average when the equipment ducted to CA103 is in operation.

(c) The carbon adsorber CA103 shall be operating at all times that the associated equipment is being operated, unless otherwise provided by the following;

In the event of a failure of the carbon adsorber CA103 system, emissions shall be reduced through the following work practices:

(A) Upon detection of the carbon adsorber CA103 system failure, the permittee shall stop the feed of materials to the centrifuges (Cent 114A, Cent115A, Cent 117A);

(B) For no more than 30 minutes after detection of the carbon adsorber CA103 system failure, the permittee may continue processing the remaining materials in the centrifuges (Cent 114A, Cent115A, Cent 117A), conveyors (COS 109H, COS 109J), and tank 118A;

(C) No new material may be introduced into the centrifuges (Cent 114A, Cent115A, Cent 117A) until the carbon adsorber CA103 system resumes normal operation; and

(D) The provisions in Section D.3.2(d)(iii)(A-C) shall apply to no more than 10 hours of failure per twelve (12) consecutive month period with compliance determined at the end of each month.

(d) The BACT for fugitive VOC emissions shall be use of an Auditory, Visual, and Olfactory (AVO) Monitoring program for leaks as described in Section E.3.1.

326 IAC 8-5-3 (Synthetic Pharmaceutical RACT Rule)

The centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations are not subject to this rule because the fermentation and extraction of the active ingredient in the Monensin process does not constitute synthesized pharmaceutical manufacturing. Therefore, the centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations are not subject to the requirements of 326 IAC 8-5-3 (VOC Emission Limitations for Synthesized Pharmaceutical Manufacturing Operations).

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 modification are as follows:

Test Requirements

The 98% control efficiency from the Carbon Adsorber shall be achieved by measuring the inlet and outlet concentration of the Carbon Adsorber. The only volatile organic compound (VOC) solvent used in the process is Amyl Alcohol. There is no need to test the Carbon Adsorber separately for this new stream. Testing determination of 98% efficiency for combined streams will satisfy the 98 control efficiency for individual stream. If the source changes the stream, which contain other VOC compound rather than Amyl Alcohol, then individual stream testing shall be required.

The Compliance Monitoring Requirements applicable to this modification are as follows:

Control	Parameter	Frequency	Value	Excursions and Exceedances	Requirement
Carbon Adsorbers (CA103)	VOC CEMS	Continuous	N/A	Continuous emission monitoring system measurement data.	326 IAC 8-1-6

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 165-27283-00009. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Change 1: The new emission units, BACT limits, Compliance Monitoring and Compliance Determination for the new centrifuges and other existing units have been added to the permit in Section D.3 accordingly.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: AHM - Product Recovery Operations

(a) The following Unit IDs have applicable conditions in this D Section:

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
****	*****	*****	**********	********	********	*****	*****
C45A	**CENT 114A**	**No**	**CENTRIFUGE**	**PVC45AC103**	**Carbon Adsorber CA103****	**N/A**	**N/A**
C45A	**CENT 115A**	**No**	**CENTRIFUGE**	**PVC45AC103**	**Carbon Adsorber CA103****	**N/A**	**N/A**
C45A	**CENT 117A**	**No**	**CENTRIFUGE**	**PVC45AC103**	**Carbon Adsorber CA103****	**N/A**	**N/A**
C45A	**COS109 H**	**No**	**SCREW CONVEYOR**	**PVC45AC103**	**Carbon Adsorber CA103****	**N/A**	**N/A**
C45A	**COS109J**	**No**	**SCREW CONVEYOR**	**PVC45AC103**	**Carbon Adsorber CA103****	**N/A**	**N/A**
C45	EV101	8	EVAPORATOR	PVC45AAC460	Carbon Adsorber CA460**	9,000	Gallons
C45A	**TK118A**	**No**	**CENTRIFUGE TANK**	**PVC45AC103A**	**Carbon Adsorber CA103****	**610**	**Gallons**
****	*****	*****	*********	********	********	******	****

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A "NO" indicates that the equipment is not associated with the Narasin Process.

(b) The following Unit IDs are not subject to applicable requirements, and are listed only for informational purposes

Bldg.	Unit ID*	Narasin Emission Unit***	Unit Description	Stack/Vent ID	Control**	Capacity	Units
****	***	***	****	***	*****	****	****
~~C45~~	~~CENT114*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~
~~C45~~	~~CENT115*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~
C45	CENT116*	No	CENTRIFUGE	N/A		N/A	N/A
~~C45~~	~~CENT117*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~
~~C45~~	~~CENT114A*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~
~~C45~~	~~CENT115A*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~
~~C45~~	~~CENT117A*~~	~~No~~	~~CENTRIFUGE~~	~~N/A~~	-	~~N/A~~	~~N/A~~

C45	COL201*	No	DISTILLATION COLUMN	PVC45TK201		2,100	Gallons
C45	COL204*	8	DISTILLATION COLUMN	PVC45TK204		3,800	Gallons
C45	COL219*	No	DISTILLATION COLUMN	PVC45TK219		3,800	Gallons
C45	COS109A	No	SCREW CONVEYOR	PVC45AC103A	Carbon Adsorber CA103	N/A	N/A
C45	COS109B*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS109D*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	COS109G*	No	SCREW CONVEYOR	N/A		N/A	N/A
~~C45~~	~~COS109H*~~	~~No~~	~~SCREW CONVEYOR~~	~~N/A~~	~~Carbon Adsorber CA103~~	~~N/A~~	~~N/A~~
~~C45~~	~~COS109J*~~	~~No~~	~~SCREW CONVEYOR~~	~~N/A~~	~~Carbon Adsorber CA103~~	~~N/A~~	~~N/A~~
C45	COS153*	8	SCREW CONVEYOR	PVC45COS153	Vent Sock VS153B	N/A	N/A
C45	COS160A*	No	SCREW CONVEYOR	N/A		N/A	N/A
C45	TK114B*	No	CENTRIFUGE TANK	PVC45AC103A	Carbon Adsorber CA103	470	Gallons
~~C45~~	~~TK118A*~~	~~No~~	~~CENTRIFUGE TANK~~	~~PVC45AC103A~~	~~Carbon Adsorber CA103~~	~~610~~	~~Gallons~~
****	******	*****	**********	**********	**********	*******	******

*Emissions units marked with a single asterisk are insignificant activities as defined in 326 IAC 2-7-1(21).
** Control devices marked with a double asterisk are required to meet an applicable limitation.
*** A number indicates the Narasin Emission Unit that the equipment is associated with. A "NO" indicates that the equipment is not associated with the Narasin Process.

(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.3.2 Volatile Organic Compounds (VOCs) [326 IAC 8-1-6] [326 IAC 2-2-3]

.....

(d) Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and significant source modification No. 165-32527-00009:

(i) The VOC emissions from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A shall be controlled by a carbon adsorber, identified as CA103.

(ii) The carbon adsorber CA103 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppmv), based on a 24-hour block average when the equipment ducted to CA103 is in operation.

(iii) The carbon adsorber CA103 shall be operating at all times that the associated equipment is being operated, unless otherwise provided by the following;

In the event of a failure of the carbon adsorber CA103 system, emissions shall be reduced through the following work practices:

(A) Upon detection of the carbon adsorber CA103 system failure, the permittee shall stop the feed of materials to the centrifuges (Cent 114A, Cent115A, Cent 117A);

(B) For no more than 30 minutes after detection of the carbon adsorber CA103 system failure, the permittee may continue processing the remaining materials in the centrifuges (Cent 114A, Cent115A, Cent 117A), conveyors (COS 109H, COS 109J), and tank 118A;

(C) No new material may be introduced into the centrifuges (Cent 114A, Cent115A, Cent 117A) until the carbon adsorber CA103 system resumes normal operation; and

(D) The provisions in Section D.3.2(d)(iii)(A-C) shall apply to no more than 10 hours of failure per twelve (12) consecutive month period with compliance determined at the end of each month.

(iv) The BACT for fugitive VOC emissions shall be use of an Auditory, Visual, and Olfactory (AVO) Monitoring program for leaks as described in Section E.3.1.

D.3.3 ~~[Reserved]~~ **Prevention of Significant Deterioration (PSD) Minor Limits [326 IAC 2-2]**

(a) The VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed thirty (30) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) During the first calendar year after permit issuance, VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A shall not exceed 2.5 tons multiplied by the number of calendar months the permit has been in effect.

Compliance with these limits shall limit the potential VOC emissions from the centrifuges fugitive VOC emissions and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations to less than 40 tons per year and render the requirements of 326 IAC 2-2 not applicable to this modification.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan (PMP) is required for the CA460 and CA103 carbon adsorbers, which are used for compliance with an applicable limitation or standard. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.

~~A Preventive Maintenance Plan (PMP) is required for the CA460 carbon adsorber, which is used for compliance with an applicable limitation or standard. The requirements for a Preventive Maintenance Plan are described in Section B, Condition B.10 – Preventive Maintenance Plan.~~

Compliance Determination Requirements ~~Leak Detection and Repair Requirements~~

D.3.5 ~~[Reserved]~~ **VOC Emission Limits Determination**

The permittee shall determine actual VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A for each calendar month by employing the following techniques:

(1) VOC measurement: The requirements for measuring VOC concentrations in the exhaust gas are described in Condition D.3.7(b).

(2) Exhaust flow rate measurement: The requirements for measuring exhaust gas flow rate are described in Condition D.3.7(c).

(3) Emission calculation: The Permittee shall calculate VOC emissions by using VOC concentration data and exhaust gas flow rate.

(4) Data substitution:

(A) During periods of CEMS calibration, the permittee shall substitute in one minute increments, the last valid VOC concentration measurement obtained prior to the calibration in lieu of actual readings from the VOC CEMS.

(B) During periods of flow meter calibration, the Permittee shall substitute in one minute increments, the last valid gas flow rate measurement obtained prior to the calibration in lieu of actual readings from the flow meter.

(C) During periods of CEMS maintenance, malfunction, or repair; other periods of invalid VOC data collection; or any periods when VOC CEMS may not be operating and its operation is not required for compliance the Permittee shall substitute the applicable concentration based limit in lieu of actual readings from the VOC CEMS.

(D) During periods of flow meter maintenance, malfunction, or repair; other periods of invalid gas flow rate data collection; or any periods when flow meter may not be operating and its operation is not required for compliance, the Permittee shall substitute span value of the flow meter or the highest expected flow based on historical operation.

(E) Emissions during Carbon Adsorber CA103 bypass periods: The Permittee shall determine monthly VOC emissions during bypass periods using the uncontrolled VOC emission rate.

VOC Emissions (tons) = Uncontrolled VOC emissions (lb/hr) * (1 Ton/2000 lbs) * hours of carbon adsorber bypass

Where:

Uncontrolled VOC emission = 51.4 lb/hr

(5) The Permittee shall determine monthly fugitive VOC emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A. Emissions for all component types except connectors will be calculated using the "SOCMI Average Emission factors" found at Table 2-1 of the EPA document "Protocol for Equipment Leak Emission Estimates," EPA-453/R-95-017, November 1995. As this document does not provide for any adjustment in connector emissions for the connector's service conditions, the connector emission factors developed by the Texas Council on Environmental Quality (TCEQ) for that purpose will be used. These are found in the TCEQ document "Emissions Factors for Equipment Leak Fugitive Components" (Addendum to RG-360A, January 2008) The emission control factor for an audible/visible/olfactory leak repair program will also be taken from TCEQ, in this case from the TCEQ document "Air Permit Technical Guidance for Chemical Sources: Equipment Leak Fugitives" (October, 2000).

(6) The VOC CEMS on the outlet of the CA103 Carbon Adsorber measures all VOC emissions emitted by C45 Monensin product recovery emission units, including those units not subject to the VOC emission limit described in Condition D.3.3. If the monitoring results for all units demonstrates compliance with the limit, then the emissions from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D,

COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A will be presumed to comply with this limit.

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

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D.3.7 Continuous Emissions Monitoring **System (CEMs)** [326 IAC 2-1.1-11][326 IAC 3-5]

(a) The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorber CA460. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA460 is in operation.

(b) The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorber CA103. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA103 is in operation.

(c) The Permittee shall continuously monitor the air flow from the outlet of carbon adsorber CA103. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA103 is in operation.

(e) When the CA103 outlet CEMS is down for more than twenty-four (24) consecutive hours, the Permittee shall monitor and record the carbon adsorber bed temperature, regeneration steam flow, and operating time once every four (4) hours.

(f) When the CA103 inlet CEMS is down for more than twenty-four (24) consecutive hours, the Permittee shall monitor and record the liquid flowrate to the centrifuges (Cent 114A, Cent 115A, and Cent 117A), the nitrogen flowrate to the centrifuges (Cent 114A, Cent 115A, and Cent 117A), and CA103 blower pressure once every four (4) hours.

~~The Permittee shall continuously monitor the inlet and outlet VOC concentrations for carbon adsorber CA460. Continuous monitoring operation is defined as the collection of at least one measurement for each 15-minute block period while the equipment ducted to CA460 is in operation.~~

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

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D.3.9 ~~[Reserved]~~ **Reporting Requirement**

(a) The Permittee shall prepare and submit a written report of excess emissions of the continuous emissions monitors each calendar quarter. The report must contain the information required by 326 IAC 3-5-7(4).

(b) The Permittee shall prepare and submit a quarterly report of actual emissions of VOC from Cent 114A, Cent 115A, Cent 116, Cent 117A, COS 109A, COS 109D, COS 109H, COS 109J, Tank 114A, Tank 114B, and Tank 118A as determined in accordance with Condition and D.3.3.

(c) The Permittee shall prepare and submit a quarterly report of actual hours of carbon adsorber CA103 system failure from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A as determined in accordance with Condition D.3.2.

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SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

The Narasin production areas:

- Fermentation Batch Make-up (EU-1)
- Fermentation Bump Tanks (EU-2)
- Fermenters (EU-3)
- Fermentation Harvest Tanks (EU-4)
- Dry Raw Materials Unloading and Storage (EU-5)
- Liquid Raw Materials Unloading and Storage (EU-6)
- Fermentation Vacuum Cleaning (EU-7)
- Recovery Process (EU-8)
- New Amyl Alcohol Unloading and Storage (EU-9)
- New Clay Unloading and Storage (EU-10)
- Finishing Process (EU-11)

The Monensin production areas:

- **The following recovery process equipment: Cent114A, Cent115A, Cent117A, COS109H, COS109J, TK118A.**

(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)]

Section E.3.1 LEAK DETECTION AND REPAIR (LDAR) FOR ~~NARASIN~~ PROCESS EQUIPMENT
INCLUDE IN EMISSION UNIT DESCRIPTION ~~EMISSION UNITS 1 – 11~~

(a) Applicability: The provisions of this section apply to pumps, agitators, valves, and connectors **identified in the emissions unit description for this section** that are intended to operate in volatile organic compound (VOC) service 300 hours or more during the calendar year ~~within the Narasin facility~~. Each piece of equipment that can reasonably be expected to be in VOC service is presumed to be in VOC service unless the Permittee demonstrates that the piece of equipment is not in VOC service. 40 CFR 63.180(d) shall apply.

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

Part 70 Quarterly Report

Source Name:	**Eli Lilly and Company - Clinton Laboratories**
Source Address:	**10500 South Road 63, Clinton, Indiana 47842**
Part 70 Permit No.:	**T165-27283-00009**
Facility:	**Centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations**
Parameter:	**VOC Emissions**
Limit:	**shall not exceed 30 tons per twelve (12) consecutive month period with compliance determined at the end of each month.**

QUARTER : **YEAR:**

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

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

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

Part 70 Quarterly Report

Source Name: Eli Lilly and Company - Clinton Laboratories
Source Address: 10500 South Road 63, Clinton, Indiana 47842
Part 70 Permit No.: T165-27283-00009
Facility: Centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations
Parameter: Hours of Bypass Events
Limit: shall not exceed 10 hours per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER : **YEAR:**

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

Month 3			

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

Conclusion and Recommendation

The construction and the operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 165-32527-00009 and Significant Permit Modification No. 165-32546-00009. The staff recommends to the Commissioner that this Part 70 Significant Source and Significant Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Josiah Balogun at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5257 or toll free at 1-800-451-6027 extension 4-5257.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Emission Summary
Source Name: Eli Lilly and Company - Clinton Laboratories
Source Location: 10500 South State Road 63, Clinton IN 47842
Significant Source Modification No: 165-32527-00009
Significant Permit Modification No: 165-32546-00009
Permit Reviewer: Josiah Balogun
Date: 6-Dec-2012

Uncontrolled Potential to Emit

Centrifuge Emission Unit	PM (tons/yr)	PM_{10} (tons/yr)	$PM_{2.5}$ (tons/yr)	SO_2 (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NOx (tons/yr)	GHGs as CO2e (tons/yr)	HAPs (tons/yr)
COS109D, COS109J, COS109H, TK118A, CENT114A, CENT115A, CENT116A and CENT117A	0	0	0	0	225.6	0	0	0	0
Tank114A, Tank 114B and Tank118A	0	0	0	0	2.0	0	0	0	0
Total Emissions	0.00	0.00	0.00	0.00	227.6	0.00	0.00	0.00	0

Limited Potential to Emit for the Significant Source Modification

Centrifuge Emission Unit	PM (tons/yr)	PM_{10} (tons/yr)	$PM_{2.5}$ (tons/yr)	SO_2 (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NOx (tons/yr)	GHGs as CO2e (tons/yr)	HAPs (tons/yr)
COS109D, COS109J, COS109H, TK118A, CENT114A, CENT115A, CENT116A and CENT117A	0	0	0	0	6.5	0	0	0	0
Tank114A, Tank 114B and Tank118A	0	0	0	0		0	0	0	0
Total Emissions	0.00	0.00	0.00	0.00	6.50	0.00	0.00	0.00	0

Note: The VOC emissions from this Modification will be included in the existing PSD Minor Limits for all the emissions units controlled by the Carbon Adsorber (CA103). 30 tons per year is established as a new PSD Minor Limit for all processes venting to the Carbon Adsorber (CA103).

Example VOC Emission Calculation for Individual Measurement Point:

Process Gas Flow = 95.6 ACFM
Process Gas Temperature = 108.0 F
Process Gas Amyl Concentration = 16,084 ppm

Molecular Density: 359 ft^3/lb mole
Molecular Weight of Amyl Alcohol: 88.1 g/mol
Hours per year: 8760 hours
Standard Temperature: 32 F
Minutes per hour: 60 minutes
Lbs / ton : 2000

Temperature Compensation:
(460F + Process Gas Temp (F))/(460F+32F)
=(460+108.0)/(460+32)
= 1.1544

Emissions = (Gas Flow(ACFM)/(359*(temp compensation))*(concentration (ppm)/1000000) * molecular weight * 60

Emissions = ((95.6/(359*1.1544)) * (16084/1000000) * 88.1 * 60)
=19.61 pounds per hour (lb/hr)

Test Case Averages and Standard Deviations for Individual Measurement Points:

COS109J = 18.78 pounds per hour (lb/hr)
COS109H = 2.95 lb/hr
TK118 = 9.88 lb/hr
Total = 31.61 lb/hr
Standard Deviation = 19.9 lb/hr

Total plus 1 Standard Deviation

Total = 31.61 + 19.9 = 51.5 lb/hr
Total = 51.5 lb/hr * 8760 hour/year / 2000 lb/ton = 225.6 tons per year (tpy)

Total plus Fugitives (Uncontrolled Potential to Emit)

Fugitive Emissions = 2.0 tpy = .5 lb/hr
Total = 225.6 tpy + 2.0 tpy = 227.6 tpy

Total plus Fugitives (Controlled Potential to Emit)

Controlled = Uncontrolled * (1 - control efficiency)
Controlled = 225.6 * (1- .98) = 4.5 tpy
Fugitives = 2.0 tpy
Total Controlled = 4.5 tpy + 2.0 tpy = 6.5 tpy

Total plus Fugitives (Limited Potential to Emit)

Limited potential is < 40 tpy, proposed to be 30 tpy in permit Section D.3.3(a) by Elanco.

Indiana Department of Environmental Management
Office of Air Quality

Appendix B – BACT Analyses
Technical Support Document (TSD)
Significant Source Modification (SSM) of a Part 70 Source
Significant Permit Modification (SPM) of Part 70 Operating Permit

Source Background and Description

Source Name:	**Eli Lilly and Company - Clinton Laboratories**
Source Location:	**10500 South State Road 63, Clinton, IN 47842**
County:	**Vermillion**
SIC Code:	**2833, 2834, 2879**
Operation Permit No.:	**T 165-27283-00009**
Operation Permit Issuance Date:	**October 16, 2009**
Significant Source Modification No.:	**165-32527-00009**
Significant Permit Modification No.:	**165-32546-00009**
Permit Reviewer:	**Josiah Balogun**

Proposed Expansion

On November 19, 2012, the Office of Air Quality (OAQ) received an application from Eli Lilly and Company - Clinton Laboratories relating to VOC emissions from centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations, located at 10500 South State Road 63, Clinton, Indiana, in Vermillion County.

Requirement for Best Available Control Technology (BACT)

The requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions greater than 25 tons per year, and which are not otherwise regulated by other provisions of 326 IAC 8 rule, and requires the reduction of VOC emissions using Best Available Control Technology (BACT). The proposed centrifuges and associated equipment [conveyors and tanks] in the C45 Monensin product recovery operations have potential VOC emissions of greater than 25 tons per year and is therefore subject to this rule.

326 IAC 8-1-6 requires a best available control technology (BACT) review to be performed on the proposed modification for this emission unit:

These equipments were originally permitted under Minor Source Modification No 165-31344-00009, issued on January 24, 2012. When permitted, the VOC emissions were estimated to be 19 tons per year. After the new equipment was installed, the source began a startup process that included voluntary emissions testing of the new equipment to verify the emission estimates included in the permit application. Amyl alcohol saturation levels and air flow rates in the new equipment were measured to estimate potential to emit VOCs.

Through exhaustive testing and analysis of the new equipment, the source has determined the VOC estimates from the equipment installed under minor source modification 165-31344-00009 are greater than originally estimated in the January 2012 application.

(a) the addition of three centrifuges in Building C45;
(b) the addition of two conveyors in Building C45;
(c) the modification of one existing conveyor and
(d) the addition of a concentrate tank in Building C45.

Summary of the Best Available Control Technology (BACT) Process

BACT is an emission limitation or equipment standard based on the maximum degree of pollution reduction of emissions, which is determined to be achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations.

Federal guidance on BACT requires an evaluation that follows a "top down" process. In this approach, the applicant identifies the best-controlled similar source on the basis of controls required by regulation or permit, or controls achieved in practice. The highest level of control is then evaluated for technical feasibility.

The five (5) basic steps of a top-down BACT analysis used by the Office of Air Quality (OAQ) to make BACT determinations are listed 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 in question. The list should include lowest achievable emission rate (LAER) technologies and controls applied to similar source categories.

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 on 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. IDEM evaluates any innovative controls if proposed by the source. 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 (percent pollutant removed). 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 begins with an evaluation of the remaining technologies under consideration for each pollutant of concern in regards to energy, environmental, and

economic impacts for determining a final control technology. The highest ranked alternative is evaluated for environmental, energy and economic impacts specific to the proposed modification. If the analysis determines that the highest ranked control is not appropriate as BACT, due to any of the energy, environmental, and economic impacts, then the next most effective control is evaluated. The evaluation continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical, economic or environmental analysis for a greenhouse gas BACT. An Air Quality Impact Analysis would be required for a non-greenhouse gas BACT.

Step 5: Select BACT
The most effective option not eliminated in step 4 is BACT.

Volatile Organic Compounds (VOC) BACT – Monensim Product Recovery Operations

Step 1: Identify Potential Control Technologies

The volatile organic compounds (VOC) emissions can be controlled by the followings:

(1) Thermal Incineration (Direct, Recuperative and Regenerative thermal incineration);

(2) Catalytic incineration

(3) Biofiltration

(4) Carbon adsorption

(5) Scrubbing of VOCs using liquid absorption

(6) Condensation of VOC

(7) Flares

Destruction technologies reduce VOC concentration by high temperature oxidation into carbon dioxide and water vapor. Reclamation is the capture of VOCs for reuse or disposal.

Step 2: Eliminate Technically Infeasible Options

The test for technical feasibility of any control option is whether it is both available and applicable in reducing VOC emissions from emissions units at Narasin Fermentation operations. The control technologies listed in the previous section are discussed and evaluated below for their technical feasibility.

Direct Thermal Incinerators
The destruction of organic compounds usually requires temperatures ranging from $1,200^0$F to $2,000^0$F for direct thermal incinerators or 600^0F to $1,200^0$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.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of a direct thermal incinerators is technically feasible option for the Monensin Product Recovery operations at this source.

Recuperative Thermal Incineration
Recuperative thermal incinerators are add-on control devices used to control VOC emissions by introducing solvent-laden fume to the oxidizer. The stream is pre-heated by exiting flue gas from the same system in a heat exchanger or recuperator. A burner then heats the air to the required temperature. The air is then passed through an oxidation chamber where the solvent-laden air is converted to carbon dioxide and water. These are then passed through the heat exchanger where incoming fume is preheated by the heat of the exiting flue gas. Finally the clean flue gas is discharged to the atmosphere. The recuperative thermal oxidizer is appropriate for waste streams with a relatively high solvent content and/or consistent pollutant loading. Variation in pollutant loading will require a longer retention time in the oxidizer in order to properly destroy VOC emissions. Based on a review of the RBLC, this type of control has been used for controlling VOC emissions from many sources including pharmaceutical processes.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of a Recuperative Thermal Incineration is technically feasible option for the Monensin Product Recovery operations at this source.

Regenerative Thermal Incineration
Regenerative thermal oxidizers (RTOs) are add-on control devices used to control VOC emissions by simple reaction of the harmful air pollutants with oxygen and heat. RTO uses a direct contact heat exchanger. These direct contact heat exchangers consist of a bed of porous ceramic packing or other structured, high heat capacity media. These systems can handle variable and low-concentration VOC waste streams.

The inlet gas first passes through a hot ceramic bed thereby heating the stream (and cooling the bed) to its ignition temperature. The hot gases then react (releasing energy) in the combustion chamber and while passing through another ceramic bed, thereby heating it to the combustion chamber outlet temperature. The process flows are then switched, now feeding the inlet stream to the hot bed. This cyclic process affords very high energy recovery (up to 95%). The higher capital costs associated with these high-performance heat exchangers and combustion chambers may be offset by the increased auxiliary fuel savings to make such a system economical. The Monensin Product Recovery operations have a low - concentration exhaust stream which makes the Regenerative thermal oxidizers a suitable control device.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of a Regenerative thermal oxidizer with control efficiency of 98% is a technically feasible option for the Monensin Product Recovery operations at this source.

Catalytic Incineration
Catalytic incinerators are add-on control devices used to control VOC emissions by using a bed of catalyst that facilitates the oxidation of the combustible gases. The catalyst increases the reaction rate and allows the conversion of VOC at lower temperatures than thermal incinerators. Catalytic oxidation can be used for low-concentration VOC waste streams; however, certain compounds present in waste stream gas may foul the catalyst. It may also be necessary to remove particulate prior to catalytic oxidation as well. The Monensin Product Recovery operations have a low temperature and low concentration VOC waste streams which makes the control device technically feasible for this type of operation.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of Catalytic Oxidation is a technically feasible options for the Monensin Product Recovery operations at this source.

Adsorption
Adsorption is a surface phenomenon where attraction between the 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 bed reclaimed and destroyed. Adsorption can be used for relatively low VOC exhaust streams. Pollutants present in the gas streams can reduce adsorber efficiency, increase pressure drop and eventually plug the bed. Adsorption processes can be used to capture VOCs in low concentration exhaust; however, it is typically only used for exhaust that is not loaded with other pollutants which can plug the bed.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of Carbon adsorption is a technically feasible option for the Monensin Product Recovery operations at this source.

Biofiltration

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, may destroy VOC pollutants.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of Biofilter is a technically feasible option for the Monensin Product Recovery operations at this
source.

Flares:
Flaring is used to control VOC emissions by piping VOCs to a remote, usually elevated location and burning them in an open flame in the open air using a specially designed burner tip, auxiliary fuel, and steam or air to promote mixing for nearly complete (> 98%) VOC destruction. 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.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of a flare is not a technically feasible option for the Monensin Product Recovery operations at this source.

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 nonvolatile hydrocarbons, are suitable absorption solvents. The choice of solvent depends on cost and solubility of the pollutant in the solvent. Absorption is commonly used to recover products or purify gas streams that have high concentrations of organic compounds. Absorption processes are typically used to recover products or purify gas streams with high concentrations of organic compounds such as in the ethanol production and soybean oil refinery industries.

Scrubbing/liquid absorption is not feasible as a proposed emission control system because amyl alcohol, the VOC present in the C45 Monensin product recovery exhaust streams, is only slightly soluble in water. Amyl alcohol's lack of solubility in water is currently beneficial to Clinton Labs because this enables the site to recover and reuse the amyl alcohol contained in the water collected by steam stripping the existing carbon adsorbers. Amyl alcohol is soluble in organic solvent solutions, but use of this type of scrubbing liquids would prevent Clinton Labs from recovering and reusing the amyl alcohol.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of absorption is not a technically feasible option for the Monensin Product Recovery operations at this source.

Condensation
Condensation is the separation of VOCs from an emission stream through a phase change, by 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). Condensers may be used to control VOC emissions with high VOC concentrations (usually greater than 5,000 ppmv).

Condensation is not feasible as a proposed emission control system because the only types of condensation systems that can achieve the degree of VOC emission controls comparable to incinerator or carbon adsorption (i.e., greater than 95%) are cryogenic and other extremely low temperature systems. These systems are typically used when exhaust flow rates are low in order to reduce the amount of refrigeration capacity needed to work effectively. Exhaust streams with a moderate or high air flow rate require excessive refrigeration capacity simply to cool both the target solvent and the air and other non-VOC gases in the exhaust. A typical usage of low temperature condensation systems is for solvent storage tanks or process reactors, which have low exhaust flow rates. Clinton Labs did not find examples of cryogenic or other extremely low temperature condensation systems in use for continuous process operations with air flow rates comparable to the 7500 acfm in the Monensin product recovery exhaust.

The RBLC shows that this type of control has been used for botanical extraction processes and petroleum refineries. Condensers are not typically used in the pharmaceutical industries for VOC control and are not considered technically feasible for the application of controlling VOC emissions from the pharmaceutical operations.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of condensation is not a technically feasible option for the Monensin Product Recovery operations at this source.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that a Recuperative Thermal Incineration, Regenerative Thermal Incineration, Catalytic Incineration and Carbon Adsorption are technically feasible for the control of VOC resulting from Monesin Product Recovery operations at the Eli Lilly and Company, Clinton Laboratories.

(1) CA103 Carbon Adsorption + thermal incineration - 98 + 99 % Control efficiency

(2) CA103 Carbon Adsorption + Catalytic incineration - 98 + 99 % Control efficiency

(3) CA103 Carbon Adsorption + biofiltration - 98 + 95 % Control efficiency

(4) CA103 Carbon Adsorption - 98% Control efficiency

For purposes of this review it should be noted that all of the significant emission sources in C45 Monensin product recovery operations are currently controlled by a carbon adsorption system that achieves 98% VOC control efficiency. This includes the C45 Monensin centrifuges and

associated equipment, and other significant sources such as a distillation operation and drying operation. The current carbon adsorber, CA103 was installed early in 2012 as a replacement for an older, less effective carbon adsorber.

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

The following table lists the proposed VOC BACT determination along with the existing VOC BACT determinations for Monensin Product Recovery Operations. All data in the table is based on the information obtained from the permit application submitted by Eli Lilly and Company - Clinton Laboratories, the U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC), and electronic versions of permits available at the websites of other permitting agencies.

BACT ID or Permit #	Facility	Process Description	Limitation	Control Method
Draft Permit No. 165-32527-00009 Proposed Limit	**Eli Lilly and Company - Clinton Laboratories**	**Monesin Product Recovery operations**	**98% control or 10 ppmv**	**Carbon Adsorption**
MI-0276	Pfizer	Pharmaceutical Production	99.99% (BACT)	Thermal oxidizer
165-27702-00009	Eli Lilly and Company - Clinton Laboratories	Narasin Product Finishing	98% control or 10 ppmv	Carbon Adsorption
		Narasin Product Recovery	98% control or 30 ppmv	Carbon Adsorption
157-6879-00006	Eli Lilly and Company	BPM	98% control or 20 ppmvdc	RTO
MI-0201	Upjohn	Filter, Pressure for Product Drying	98% (LAER)	2 Nitrogen Recycle Drying Systems
IN-0035	Eli Lilly and Company	Insulin Manufacturing storage tanks	97% (BACT)	Low Temperature Vent Condensers
IN-0098	Eli Lilly and Company	Narasin and Monensin Product Finishing	95% (BACT)	Carbon Absorber
CT-0108	Pfizer	Coater	95% (BACT)	Catalytic Oxidizer
CT-0109	Pfizer	Dryer	95% (BACT)	Catalytic Oxidizer
CT-0110	Pfizer	Dryer	95% (BACT)	Catalytic Oxidizer
CT-0129	Pfizer	Pharmaceutical Manufacturing Process	95% (BACT)	Surface Condensers
CT-0129	Pfizer	Pharmaceutical Manufacturing Process	85% (BACT)	Scrubber and/or Carbon Adsorption
CT-0133	Pfizer	Coater	95% (BACT)	Catalytic Oxidizer
CT-0134	Pfizer	Dryer	95% (BACT)	Catalytic Oxidizer
CT-0135	Pfizer	Dryer	95% (BACT)	Catalytic Oxidizer

BACT ID or Permit #	Facility	Process Description	Limitation	Control Method
CA-0570	Kelco-Division of Merck, Inc.	Biogum Processing Line	95% (BACT)	Water Scrubbers
MI-0107	Wyckoff Chemicals Co., Inc.	Pharmaceutical Mfg.	95% (BACT)	Caustic Scrubber/Demister, Carbon Adsorption System
MI-0235	Upjohn	Expansion of HF Chemistry	94.7% (BACT)	Refrigerated Condenser
MI-0312	Wyckoff, Inc.	Reactors, et. al.	Condenser @ -15 Deg C, typically reaches 94%	Scrubber and Condenser
CT-0103	Pfizer	Pharmaceutical Manufacturing Equipment	93% (BACT)	Regenerative Oil Adsorption System
CT-0037	American Cyanamid Co.	Pharmaceutical Material Generation	90% (BACT)	Activated Carbon Adsorption
MI-0223	Dow Chemical	Reactor, Distillation, Crystallizer, Centrifuge, Vacuum Dryer, and Filter	90% for Isopropyl Alcohol and 95% for Ethyl Alcohol	Condenser followed by Wet Scrubber
CA-0348	ICN Pharmaceuticals	Drying Ovens (4)	65 lb/day (control efficiency not specified) (BACT)	Carbon Adsorption
PA-0265	Merck & Co., Cherokee	Entire facility	82.14 ton/yr (control efficiency not specified)	Scrubbers and Incinerators

IDEM has reviewed EPA's RACT/BACT/LAER Clearinghouse for entries in the pharmaceutical manufacturing sector as a comparison to the proposed BACT. The findings of that review show that the proposed BACT would be among the highest performing control systems in the industry sector.

There are two recent BACT determinations that did not appear in the RBLC search. These determinations are listed in the above table for Eli Lilly and Company, Tippecanoe Laboratories (now Evonik DeGussa, Tippecanoe Laboratories) and Eli Lilly and Company, Clinton Laboratories (Narasin process flexible permit).

The most comparable of the recent BACT determinations is the Narasin flexible permit BACT determination for Clinton Laboratories in 2009. The Narasin Product Recovery operations are extremely similar in equipment configurations and emissions profile. That determination required a 98% VOC control efficiency or 30 ppmv VOC concentrations in the exhaust stack, whichever is less stringent. The proposed BACT for this application is more stringent with a 98% control efficiency and 10 ppmv outlet gas concentration.

In evaluating BACT for VOC control of pharmaceutical operations, it is important to note that the control efficiency anticipated for a given emission unit/control equipment combination is dependent upon the uncontrolled VOC emission rate of the emission unit. Even though a unit may be listed with a high control efficiency in RBLC, the same control equipment would be expected to have a lower control efficiency if the uncontrolled emission rate is lower. IDEM has focused its BACT evaluation on the extent to which the selected control equipment corresponds to the control equipment type utilized at the best-controlled facility identified in RBLC.

The RBLC entry with the highest indicated VOC control efficiency is an entry for Pfizer in Holland, Michigan that is described in RBLC as "three 22,500 cfm thermal oxidizers (that) will destroy VOC and combustibles at 99.99% guaranteed efficiency". Due to the high control efficiency noted in RBLC for this unit, a more detailed discussion of this permit is provided.

The Pfizer Holland plant is no longer in operation. The Pfizer permit did not have a permit condition or limit that required 99.99% control of VOC emissions, but rather a mass emission rate of 0.84 pounds of VOC per hour (for all units combined).

The oxidizers at Pfizer were simple afterburners manufactured by Callidus, followed by waste heat boilers. No information was available on the inlet VOC concentration for this unit. Although the 99.99% control requirement was not a permit limit for this unit, the source did perform an analysis of the economic feasibility of installing thermal control systems on the outlet of the C45 Monensin product recovery exhaust. As described in Appendix C cost analysis, direct incineration was determined to not be an effective emission control strategy due to economic, energy, and environmental impacts.

All remaining RBLC entries for this classification code had BACT requirements which contained VOC control requirements no more stringent than the 98% control efficiency proposed by Clinton Labs.

Proposal: **Eli Lilly and Company - Clinton Laboratories** – **Clinton, Indiana**
The following has been proposed as BACT for VOC emissions from the proposed Monensin Product Recovery operations:

(a) The VOC emissions from the Monensin Product Recovery operations shall be controlled by the existing Carbon Adsorption system (CA103)

(b) The overall VOC control efficiency shall not be less than 98% or a volumetric concentration of 10 parts per million (ppmv) based on a 24 - hour block average.

(c) The carbon adsorber CA103 shall be operating at all times that the associated equipment is being operated, unless otherwise provided by the following;

In the event of a failure of the carbon adsorber CA103 system, emissions shall be reduced through the following work practices:

(A) Upon detection of the carbon adsorber CA103 system failure, the permittee shall stop the feed of materials to the centrifuges (Cent 114A, Cent115A, Cent 117A);

(B) For no more than 30 minutes after detection of the carbon adsorber CA103 system failure, the permittee may continue processing the remaining materials in the centrifuges (Cent 114A, Cent115A, Cent 117A), conveyors (COS 109H, COS 109J), and tank 118A;

(C) No new material may be introduced into the centrifuges (Cent 114A, Cent115A, Cent 117A) until the carbon adsorber CA103 system resumes normal operation; and

(D) The provisions in Section D.3.2(d)(iii)(A-C) shall apply to no more than 10 hours of failure per twelve (12) consecutive month period with compliance determined at the end of each month.

Step 5: Select BACT

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), the Permittee shall comply with the following requirements for VOC for the Monensin Product Recovery operations:

(i) The VOC emissions from Cent 114A, Cent 115A, Cent 117A, COS 109H, COS 109J, and Tank 118A shall be controlled by carbon adsorber, identified as CA103.

(ii) The carbon adsorber, identified as CA103 shall reduce VOC emissions by ninety-eight percent (98%), as measured by a comparison of the inlet and outlet concentrations to the carbon adsorber, unless outlet concentrations from the carbon adsorber are equal to or less than 10 parts per million (ppmv), based on a 24-hour block average when the equipment ducted to CA103 is in operation.

(iii) The carbon adsorber CA103 shall be operating at all times that the associated equipment is being operated, unless otherwise provided by the following;

In the event of a failure of the carbon adsorber CA103 system, emissions shall be reduced through the following work practices:

(A) Upon detection of the carbon adsorber CA103 system failure, the permittee shall stop the feed of materials to the centrifuges (Cent 114A, Cent115A, Cent 117A);

(B) For no more than 30 minutes after detection of the carbon adsorber CA103 system failure, the permittee may continue processing the remaining materials in the centrifuges (Cent 114A, Cent115A, Cent 117A), conveyors (COS 109H, COS 109J), and tank 118A;

(C) No new material may be introduced into the centrifuges (Cent 114A, Cent115A, Cent 117A) until the carbon adsorber CA103 system resumes normal operation; and

(D) The provisions in Section D.3.2(d)(iii)(A-C) shall apply to no more than 10 hours of failure per twelve (12) consecutive month period with compliance determined at the end of each month.

Volatile Organic Compounds (VOC) BACT – Fugitives VOCs

In evaluating the benefit that would be derived from the use of a LDAR system for these operations, IDEM first determined whether components would be classified as being in “light liquid” service or “heavy liquid” service. LDAR programs are contained in NSPS in 40 CFR Part 60, Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry) and for MACT standards in 40 CFR Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks). Both standards utilize a similar definition for “light liquid” service, which is:

In light liquid service means that a piece of equipment in organic hazardous air pollutant service contains a liquid that meets the following conditions:

(1) The vapor pressure of one or more of the organic compounds is greater than 0.3 kilopascals at 20°C,
(2) The total concentration of the pure organic compounds constituents having a vapor pressure greater than 0.3 kilopascals at 20°C is equal to or greater than 20 percent by weight of the total process stream, and
(3) The fluid is a liquid at operating conditions.

As noted earlier, the VOC used in Monensin product recovery operations is amyl alcohol. Amyl alcohol has a vapor pressure of 1.5 mm mercury at 20° C, or approximately 0.2 kilopascals. Based on the definitions contained in Part 60 and Part 63, amyl alcohol would be considered to be a heavy liquid. For heavy liquids, 40 CFR Part 63, Subpart H requires only prompt repair of identified leakers.

Step 1: Identify Potential Control Technologies

The VOC emissions from fugitive equipments leaks can be controlled by;

(a) Instrument Leak detection and repair (LDAR) programs; and

(b) Auditory, Visual, and Olfactory (AVO) Monitoring

Step 2: Eliminate Technically Infeasible Options

Instrument Leak Detection and Repair (LDAR) Programs
Instrument LDAR programs and the alternative work practice of remote sensing using an infrared camera have been determined by EPA to be equivalent methods of piping fugitive controls. Some of the more stringent LDAR programs provide for 97% control credit for valves, flanges, and connectors.
Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of Instrument Leak detection and repair (LDAR) programs is a technically feasible option for the fugitive equipment leaks at this source.

Auditory, Visual and Olfactory (AVO) Monitoring
As-observed AVO methods are generally somewhat less effective than instrument LDAR programs, since they are not conducted at specific intervals. The olfactory observation is a very effective method for identifying and correcting leaks in this type of operation.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of Auditory, Visual, and Olfactory (AVO) Monitoring is a technically feasible option for the fugitive equipment leaks at this source.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

(a) Instrument Leak detection and repair (LDAR) programs; and
(b) Auditory, Visual, and Olfactory (AVO) Monitoring

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

For components in heavy liquid service, existing USEPA LDAR regulations (e.g. Pharma MACT and others), and comparable State requirements (e.g. Texas' TCEQ 28VHP) require, at most, that visible, audible, or olfactory leaks be repaired. No surveys or inspections are mandated. Clinton Labs therefore proposes that the permit include only conditions similar to the attached draft language, which requires that observed leaks be repaired. It is worth noting that the most stringent current Texas Council on Environmental Quality (TCEQ) BACT for VOC fugitives requires application of the TCEQ 28VHP LDAR program. The TCEQ 28VHP LDAR program provides that neither monitoring nor repair requirements apply. USEPA regulations including heavy liquids (compare 40 CFR Part 63, Subpart H and GGG, and 40 CFR Part 60, Subpart VV) generally simply require repair of leaks which may be observed; Clinton Labs is proposing to do likewise.

Unlike broader LDAR programs, which are meant to be able to address components with a variety of VOCs and service conditions, which may be intermingled in the field, the proposed

Clinton Labs program does not require individual identification of each component. Instead, Clinton Labs will distinguish components subject to the leak repair requirements from those not subject by reference to suitably highlighted Process and Instrumentation Diagrams (P&IDs) or Process Flow Diagram (PFD). Components requiring repair will have an orange repair tag attached on or near them, with sufficient information to allow location of the leaking item, but there will not be a list of every component at any point. Such as listing is unneeded, as there is no requirement to quantify the number of components, as might be necessary to perform a percent leaking calculation. The highlighted P&ID or PFD will adequately distinguish between components subject to the program (in VOC service) from those which are not. The "orange tag" will adequately identify a suspect leaking component during the period when it is being addressed. While there is a legitimate concern that a "repeat leaker" trend may occur unrecognized, it should be noted that no existing LDAR rule actually mandates permanent replacement of a "repeat leaker" component. The source proposes to retain records of the leaks, and even if the "orange tag" description of a particular component is not identical to its description in any future leaks, the Monensin centrifuge process area is small enough that a repeating pattern of leaks is likely to be detected and addressed, if only to minimize the cost of repeated repairs.

Proposal: **Eli Lilly and Company - Clinton Laboratories** – **Clinton, Indiana**
The following has been proposed as BACT for VOC from the proposed Fugitives Equipment Leaks:

The BACT for fugitive VOC emissions shall be use of an Auditory, Visual, and Olfactory (AVO) Monitoring program for leaks as described in Section E.3.1.

Step 5: Select BACT

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), IDEM has established the following as BACT for GHG for Fugitives Equipment Leaks.

The BACT for fugitive VOC emissions shall be use of an Auditory, Visual, and Olfactory (AVO) Monitoring program for leaks as described in Section E.3.1.

VOC Emission Control Cost Effectiveness for Direct Thermal Oxidizer

Description of Cost	Design factors	Cost Factor	Cost ($)
Direct Capital Costs (DC)			
Purchased Equip. Cost (PE) vendor data			
Basic Equipment cost (A) - adjusted from 1999 $ to 2011 $			126,213
Design basis for equipment - air flow in acfm at 70 °F	7,500		
OAQPS cost manual estimate (1999 $)	$84,171		
Inflation adjustment factor	1.499487967		
Chemical Engineer's Plant Cost Index - 1999	390.6		
Chemical Engineer's Plant Cost Index - 2011	585.7		
Auxiliary Equipment (B) Ductwork, fan, stack		0.10 A	12,621
Instrumentation (included in base price)		0.00 A	0
Taxes and freight		0.08 A*B	11,107
Purchased Equipment Total			**149,941**
Direct Installation Costs (DI) (assume package/modular unit)			
Foundation & supports		0.08 PE	11,995
Handling and erection		0.14 PE	20,992
Electrical		0.04 PE	5,998
Piping		0.02 PE	2,999
Insulation		0.01 PE	1,499
Painting		0.01 PE	1,499
Direct Installation cost total			**44,982**
Direct Capital Cost total			**194,923**
Indirect Costs (IC)			
Engineering		0.10 PE	14,994
Construction and field expenses		0.05 PE	7,497
Contractor fees		0.10 PE	14,994
Start-up		0.02 PE	2,999
Performance testing		0.01 PE	1,499
Contingencies		0.03 PE	4,498
Indirect Cost Total			**46,482**
Total Capital Investment (TCI = DC + IC)			**241,405**

Direct Annual Costs (DAC)			
Operating Costs (O)			
Schedule 24 hr/day, 7 day/wk, 52 wk/yr			
Operator 0.5 hr/shift, $48/hr			26,208
Supervisor 15% of operator cost			3,931
Maintenance labor 0.5 hr/shift, $48/hr			26,208
Material assumed at 100% of labor cost			26,208
Natural gas cost			502,916
Thermal efficiency (%)	0		
Operating temperature (oF)	1500		
Heating value (Btu/ft3)	1000		
Gas usage (MMcf/yr)	100.58		
Gas cost ($/MMcf)	5,000		
Electricity cost			9,959
Pressure drop (inches WG)	15		
Fan eff. (%)	60		
Fan electric usage (kwh/yr)	191,526		
Electricity cost rate ($/kwh)	0.052		
VOC emission rate (lb/hr)	2.5		
VOC heat value (Btu/lb)	10259		
VOC heat addition (reduction in natural gas expense per year)			-1,109
Total DAC			**594,321**

Indirect Annual Costs (IAC)			
Overhead	60% of O&M		49,533
Administrative		0.02 TCI	4,828
Insurance		0.01 TCI	2,414
Property tax		0.01 TCI	2,414
Capital recovery			31,345
interest rate (%)	11	0.13 TCI	
period (years)	18		
Total IAC			**90,534**

Total Annual Cost (DAC + IAC)			**$684,855**
VOC Emission Rate (tons/yr)			10.9
VOC Removed (tons/yr)			10.8
Control device removal efficiency (%)	*99*		
Cost Effectiveness ($/ton)			$63,413
NOx from Control Device Burners (tons/yr)			*5.0*

VOC Emission Control Cost Effectiveness for Recuperative Thermal Oxidizer

Description of Cost	Design factors	Cost Factor	Cost ($)
Direct Capital Costs (DC)			
Purchased Equip. Cost (PE) vendor data			
Basic Equipment cost (A) - adjusted from 1999 $ to 2011 $			297,813
Design basis for equipment - air flow in acfm at 70 °F	7,500		
OAQPS cost manual estimate (1999 $)	$198,610		
Inflation adjustment factor	1.499487967		
Chemical Engineer's Plant Cost Index - 1999	390.6		
Chemical Engineer's Plant Cost Index - 2011	585.7		
Auxiliary Equipment (B) Ductwork, fan, stack		0.10 A	29,781
Instrumentation (included in base price)		0.00 A	0
Taxes and freight		0.08 A*B	26,208
Purchased Equipment Total			**353,802**
Direct Installation Costs (DI) (assume package/modular unit)			
Foundation & supports		0.08 PE	28,304
Handling and erection		0.14 PE	49,532
Electrical		0.04 PE	14,152
Piping		0.02 PE	7,076
Insulation		0.01 PE	3,538
Painting		0.01 PE	3,538
Direct Installation cost total			**106,140**
Direct Capital Cost total			**459,942**
Indirect Costs (IC)			
Engineering		0.10 PE	35,380
Construction and field expenses		0.05 PE	17,690
Contractor fees		0.10 PE	35,380
Start-up		0.02 PE	7,076
Performance testing		0.01 PE	3,538
Contingencies		0.03 PE	10,614
Indirect Cost Total			**109,679**
Total Capital Investment (TCI = DC + IC)			**569,621**

Direct Annual Costs (DAC)			
Operating Costs (O)			
Schedule 24 hr/day, 7 day/wk, 52 wk/yr			
Operator 0.5 hr/shift, $48/hr			26,208
Supervisor 15% of operator cost			3,931
Maintenance labor 0.5 hr/shift, $48/hr			26,208
Material assumed at 100% of labor cost			26,208
Natural gas cost			150,091
Thermal efficiency (%)	70		
Operating temperature (oF)	1500		
Heating value (Btu/ft3)	1000		
Gas usage (MMcf/yr)	30.02		
Gas cost ($/MMcf)	5,000		
Electricity cost			9,959
Pressure drop (inches WG)	15		
Fan eff. (%)	60		
Fan electric usage (kwh/yr)	191,526		
Electricity cost rate ($/kwh)	0.052		
VOC emission rate (lb/hr)	2.5		
VOC heat value (Btu/lb)	10259		
VOC heat addition (reduction in natural gas expense per year)			-1,109
Total DAC			**241,496**

Indirect Annual Costs (IAC)			
Overhead	60% of O&M		49,533
Administrative		0.02 TCI	11,392
Insurance		0.01 TCI	5,696
Property tax		0.01 TCI	5,696
Capital recovery			73,961
interest rate (%)	11	0.13 TCI	
period (years)	18		
Total IAC			**146,279**

Total Annual Cost (DAC + IAC)	**$387,775**

VOC Emission Rate (tons/yr)		10.9
VOC Removed (tons/yr)		10.8
Control device removal efficiency (%)	*99*	
Cost Effectiveness ($/ton)		$35,905
NOx from Control Device Burners (tons/yr)		*1.5*

VOC Emission Control Cost Effectiveness for Regenerative Thermal Oxidizer

Description of Cost	Design factors	Cost Factor	Cost ($)
Direct Capital Costs (DC)			
Purchased Equip. Cost (PE) vendor data			
Basic Equipment cost (A) - adjusted from 1999 $ to 2011 $			460,605
Design basis for equipment - air flow in acfm at 70 ^{o}F	7,500		
OAQPS cost manual estimate (1999 $)	$307,175		
Inflation adjustment factor	1.499487967		
Chemical Engineer's Plant Cost Index - 1999	390.6		
Chemical Engineer's Plant Cost Index - 2011	585.7		
Auxiliary Equipment (B) Ductwork, fan, stack		0.10 A	46,061
Instrumentation (included in base price)		0.00 A	0
Taxes and freight		0.08 A*B	40,533
Purchased Equipment Total			**547,199**
Direct Installation Costs (DI) (assume package/modular unit)			
Foundation & supports		0.08 PE	43,776
Handling and erection		0.14 PE	76,608
Electrical		0.04 PE	21,888
Piping		0.02 PE	10,944
Insulation		0.01 PE	5,472
Painting		0.01 PE	5,472
Direct Installation cost total			**164,160**
Direct Capital Cost total			**711,359**
Indirect Costs (IC)			
Engineering		0.10 PE	54,720
Construction and field expenses		0.05 PE	27,360
Contractor fees		0.10 PE	54,720
Start-up		0.02 PE	10,944
Performance testing		0.01 PE	5,472
Contingencies		0.03 PE	16,416
Indirect Cost Total			**169,632**
Total Capital Investment (TCI = DC + IC)			**880,990**

Direct Annual Costs (DAC)			
Operating Costs (O)			
Schedule 24 hr/day, 7 day/wk, 52 wk/yr			
Operator 0.5 hr/shift, $48/hr			26,208
Supervisor 15% of operator cost			3,931
Maintenance labor 0.5 hr/shift, $48/hr			26,208
Material assumed at 100% of labor cost			26,208
Natural gas cost			24,082
Thermal efficiency (%)	95		
Operating temperature (oF)	1500		
Heating value (Btu/ft3)	1000		
Gas usage (MMcf/yr)	4.82		
Gas cost ($/MMcf)	5,000		
Electricity cost			9,959
Pressure drop (inches WG)	15		
Fan eff. (%)	60		
Fan electric usage (kwh/yr)	191,526		
Electricity cost rate ($/kwh)	0.052		
VOC emission rate (lb/hr)	2.5		
VOC heat value (Btu/lb)	10259		
VOC heat addition (reduction in natural gas expense per year)			-1,109
Total DAC			**115,487**
Indirect Annual Costs (IAC)			
Overhead	60% of O&M		49,533
Administrative		0.02 TCI	17,620
Insurance		0.01 TCI	8,810
Property tax		0.01 TCI	8,810
Capital recovery			114,390
interest rate (%)	11	0.13 TCI	
period (years)	18		
Total IAC			**199,163**
Total Annual Cost (DAC + IAC)			**$314,650**
VOC Emission Rate (tons/yr)			10.9
VOC Removed (tons/yr)			10.8
Control device removal efficiency (%)	*99*		
Cost Effectiveness ($/ton)			$29,134
NOx from Control Device Burners (tons/yr)			*0.2*

VOC Emission Control Cost Effectiveness for Catalytic Oxidizer

Description of Cost	Design factors	Cost Factor	Cost ($)
Direct Capital Costs (DC)			
Purchased Equip. Cost (PE) vendor data			
Basic Equipment cost (A) - adjusted from 1999 $ to 2011 $			218,450
Design basis for equipment - air flow in acfm at 70 °F	7,500		
OAQPS cost manual estimate (1999 $)	$145,683		
Inflation adjustment factor	1.499487967		
Chemical Engineer's Plant Cost Index - 1999	390.6		
Chemical Engineer's Plant Cost Index - 2011	585.7		
Auxiliary Equipment (B) Ductwork, fan, stack		0.10 A	21,845
Instrumentation (included in base price)		0.00 A	0
Taxes and freight		0.08 A*B	19,224
Purchased Equipment Total			**259,518**
Direct Installation Costs (DI) (assume package/modular unit)			
Foundation & supports		0.08 PE	20,761
Handling and erection		0.14 PE	36,333
Electrical		0.04 PE	10,381
Piping		0.02 PE	5,190
Insulation		0.01 PE	2,595
Painting		0.01 PE	2,595
Direct Installation cost total			**77,855**
Direct Capital Cost total			**337,374**
Indirect Costs (IC)			
Engineering		0.10 PE	25,952
Construction and field expenses		0.05 PE	12,976
Contractor fees		0.10 PE	25,952
Start-up		0.02 PE	5,190
Performance testing		0.01 PE	2,595
Contingencies		0.03 PE	7,786
Indirect Cost Total			**80,451**
Total Capital Investment (TCI = DC + IC)			**417,824**

Direct Annual Costs (DAC)			
Operating Costs (O)			
Schedule 24 hr/day, 7 day/wk, 52 wk/yr			
Operator 0.5 hr/shift, $48/hr			26,208
Supervisor 15% of operator cost			3,931
Maintenance labor 0.5 hr/shift, $48/hr			26,208
Material assumed at 100% of labor cost			26,208
Natural gas cost			291,432
Thermal efficiency (%)	0		
Operating temperature (oF)	900		
Heating value (Btu/ft3)	1000		
Gas usage (MMcf/yr)	58.29		
Gas cost ($/MMcf)	5,000		
Electricity cost			9,959
Pressure drop (inches WG)	15		
Fan eff. (%)	60		
Fan electric usage (kwh/yr)	191,526		
Electricity cost rate ($/kwh)	0.052		
VOC emission rate (lb/hr)	2.5		
VOC heat value (Btu/lb)	10259		
VOC heat addition (reduction in natural gas expense per year)			-1,109
Total DAC			**382,838**
Indirect Annual Costs (IAC)			
Overhead	60% of O&M		49,533
Administrative		0.02 TCI	8,356
Insurance		0.01 TCI	4,178
Property tax		0.01 TCI	4,178
Capital recovery			54,251
interest rate (%)	11	0.13 TCI	
period (years)	18		
Total IAC			**120,498**
Total Annual Cost (DAC + IAC)			**$503,335**
VOC Emission Rate (tons/yr)			10.9
VOC Removed (tons/yr)			10.8
Control device removal efficiency (%)	*99*		
Cost Effectiveness ($/ton)			**$46,605**
NOx from Control Device Burners (tons/yr)			*2.9*

VOC Emission Control Cost Effectiveness for Biofiltration

Description of Cost	Design factors	Cost Factor	Cost ($)
Capital and installation costs			
Purchased Equip. Cost (PE) vendor data			
Basic Equipment cost (A) - adjusted from 1999 $ to 2011 $			517,500
Design basis for equipment - air flow in acfm at 70 ^{o}F	7,500		
Cost per acfm factor (based on prior Lilly experience)	$69		
Total Capital Investment (TCI = DC + IC)			**517,500**
Direct Annual Costs (DAC)			
Operating Costs (O)			
Schedule 24 hr/day, 7 day/wk, 52 wk/yr			
Operator 0.5 hr/shift, $48/hr			26,208
Supervisor 15% of operator cost			3,931
Maintenance labor 0.5 hr/shift, $48/hr			26,208
Material assumed at 100% of labor cost			26,208
Natural gas cost			0
Electricity cost			9,260
Pressure drop (inches WG)	15		
Fan eff. (%)	60		
Fan electric usage (kwh/yr)	178,069		
Electricity cost rate ($/kwh)	0.052		
Total DAC			**91,815**
Indirect Annual Costs (IAC)			
Overhead	60% of O&M		49,533
Administrative		0.02 TCI	10,350
Insurance		0.01 TCI	5,175
Property tax		0.01 TCI	5,175
Capital recovery			67,194
interest rate (%)	11	0.13 TCI	
period (years)	18		
Total IAC			**137,427**
Total Annual Cost (DAC + IAC)			**$229,242**
VOC Emission Rate (tons/yr)			10.9
VOC Removed (tons/yr)			10.4
Control device removal efficiency (%)	*95*		
Cost Effectiveness ($/ton)			**$22,042**

Appendix D

Cost Analysis

Indiana Department of Environmental Management
Office of Air Quality

Cost Analysis Evaluation of Incineration Technologies:

Incineration technologies, including regenerative, recuperative, direct, and catalytic incineration are highly effective emission control systems capable of achieving 99% VOC control efficiencies. They have extensive capabilities and are candidates for emission controls in a wide range of applications, including low vapor concentrations and high air flow rates. This high level of performance and flexibility comes with the disadvantages of involving higher capital costs, potentially higher operating costs, greater energy usage, and greater environmental impacts.

Using the EPA Air Pollution Control Cost Manual, Sixth Edition (EPA/452/B-02-001, 2002) Clinton Labs estimated the cost of direct thermal incineration, recuperative thermal incineration, regenerative thermal incineration, and catalytic incineration. These values are presented in the table below.

	Direct Incineration (No energy recovery) ($)	**Recuperative (70% energy recovery) ($)**	**Regeneration (95 % energy recovery) ($)**	**Catalytic (No energy recovery) ($)**
Total Capital Cost	241,405	569,621	880,990	417,824
Direct annual Cost	594,321	241,496	115,487	382,838
Indirect annual cost	90,534	146,279	199,163	120,498
Total annual cost	684,855	387,775	314,650	503,335
Tons VOC removed per year	10.8	10.8	10.8	10.8
Cost effectiveness	**63,413**	**35,905**	**29,134**	**46,605**

Note: See appC-Cost Analysis for detail cost analysis calculations.

For each of these technologies, to varying degrees, there are similar environmental and energy impacts. In order to sustain minimum operating temperatures, each of the incinerators must consume natural gas. Direct incineration consumes the largest amount of fuel, while the other types reduce fuel usage through operation at lower temperatures or providing heat recovery mechanisms. In addition, any form of incineration technology has the potential to create carbon dioxide, carbon monoxide, and nitrogen oxide emissions based on combustion of the VOC and supplemental natural gas that is required to sustain combustion chamber temperatures. Furthermore, incineration of the amyl alcohol emissions prevents Clinton laboratories from recovering and reusing amyl alcohol thus would require the site to purchase large quantities of new solvent. The vast majority of the amyl alcohol employed in the product recovery operations at Clinton Labs is recovered and reused several times per year.

Because of the high costs of the various incineration technologies and the adverse energy and environmental impacts of these technologies in comparison to the carbon adsorption system currently in

use, incineration technology is not an effective emission control system for the C45 Monensin product recovery centrifuges and associated equipment.

Evaluation of Biofiltration
Biofiltration systems have been proven effective at reducing VOC emissions with lower annual operating expenses than incineration technologies.

Addition of a biofiltration system to the exhaust of the CA103 Carbon Adsorber could reduce an additional 10.4 ton VOC/year based on a 95% control efficiency. This arrangement would result in a cost-effectiveness of $24,106 per ton of VOC removed. As a result, adding a biofiltration system to treat emissions not controlled by the CA103 carbon adsorber is not cost-effective.

This evaluation is based on Eli Lilly and Company's 2004 evaluation of the potential installation of a biofiltration system on a wastewater treatment facility at a plant Lilly owned in Lafayette, Indiana. The total capital investment for this system, including all installation costs, would have been $56/acfm of exhaust. Adjusting for inflation (22.5%) since 2004, Clinton Labs applied a $69/acfm cost factor to installing a 7500 acfm system that would be needed at Clinton Labs for total capital costs for a biofiltration system would be $517,500.

Although a biofiltration system can be operated at lower expenses than incineration systems because of fuel cost savings, Clinton Labs estimates direct annual costs of $91,815 and indirect annual costs at $137,427, for a total annual cost of $229,242. For the 10.4 ton/yr of VOC reduced, this results in a cost-effectiveness value of $22,042 per year (See appD-Cost Analysis), which exceeds reasonable cost-effectiveness values for VOC controls. Therefore, addition of a biofiltration system at the outlet of the carbon adsorber is not considered BACT.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
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: Don Blair
Eli Lilly and Company-Clinton Labs
10500 S SR 63
Clinton, IN 47842-0099

DATE: April 18, 2013

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

SUBJECT: Final Decision
Significant Source Modification
165-32527-00009

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:
Veronica Johnson, Responsible Official
Bernard Paul, B Paul Consulting, LLC
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.

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TO: Clinton Public Library

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

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

Applicant Name: **Eli Lilly & Company – Clinton Laboratories**
Permit Number: **165-32527-00009**

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	DPABST 4/18/2013 Eli Lilly and Company-Clinton Labs 165-32527-00009 (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**

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2		Veronica Johnson GM Eli Lilly and Company-Clinton Labs 10500 S SR 63 Clinton IN 47842-0099 *(RO CAATS)*									
3		Clinton City Council and Mayors Office 259 Vine Street Clinton IN 47842 *(Local Official)*									
4		Vermillion County Health Department 257 Walnut Street Clinton IN 47842-2342 *(Health Department)*									
5		Clinton Public Library 313 S 4th St Clinton IN 47842-2398 *(Library)*									
6		Vermillion County Commissioners P.O. Box 190 Newport IN 47966 *(Local Official)*									
7		J.P. Roehm PO Box 303 Clinton IN 47842 *(Affected Party)*									
8		Bernard Paul B Paul Consulting, LLC 285 Spring Drive Zionsville IN 46077 *(Consultant)*									
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