



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: October 22, 2013

RE: CyberMetrix, Inc. / 005-33071-00106

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.dot 6/13/13



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Commissioner

New Source Construction and Federally Enforceable State Operating Permit OFFICE OF AIR QUALITY

**CyberMetrix, Inc.
2860 National Road, Suite A
Columbus, Indiana 47201**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

Operation Permit No.: F005-33071-00106	
Issued by:  Jenny Acker, Section Chief Permits Branch Office of Air Quality	Issuance Date: October 22, 2013 Expiration Date: October 22, 2018

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SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary engineering services facility.

Source Address:	2860 National Road, Suite A, Columbus, Indiana 47201
General Source Phone Number:	(812) 378-5903
SIC Code:	8711 (Engineering Services)
County Location:	Bartholomew
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

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

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

- (a) Two (2) engine test cells, identified as Engine Test Cells 1 and 2, both approved in 2013 for construction, with the capability to test natural gas-fired and diesel fuel-fired Reciprocating Internal Combustion Engines, each consisting of one (1) Dynamometer, each engine has a maximum power output rating of 1,500 horsepower (HP), and will be limited to 1,200 horsepower (HP) by the Dynamometer, each exhausting through one (1) stack (Stacks 1 and 2).
- (b) One (1) engine test cell, identified as Engine Test Cell 3, approved in 2013 for construction, with the capability to test natural gas, diesel, and gasoline-fired engines, exhausting through one (1) stack (Stack 3).

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Two (2) HVAC units, identified as H1 and H2, constructed in 2011, burning natural gas, each with a maximum capacity of 0.875 MMBtu/hr.
- (b) One (1) natural gas-fired boiler, identified as BOIL-1, approved in 2013 for construction, with a maximum rating of 52 horsepower.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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

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

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

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

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 and 326 IAC 2-8 when prior to the start of operation, the following requirements are met:

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

B.4 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F005-33071-00106, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

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

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

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

B.6 Enforceability [326 IAC 2-8-6] [IC 13-17-12]

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

B.7 Severability [326 IAC 2-8-4(4)]

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

B.8 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.9 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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

B.10 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
 - (1) it contains a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.14 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Southeast Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southeast Regional Office phone: (812) 358-2027; fax: (812) 358-2058.

- (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 2-8-4(3)(C)(ii) and must contain the following:

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

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

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

- (a) All terms and conditions of permits established prior to F005-33071-00106 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.16 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.17 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.18 Permit Renewal [326 IAC 2-8-3(h)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a

certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
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 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.19 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.20 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (c) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;

- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

- (4) The Permittee notifies the:

Indiana Department of Environmental Management
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 2-8-15(b)(1) and (c). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(1) and (c).

- (b) Emission Trades [326 IAC 2-8-15(b)]
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 2-8-15(b).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.22 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as

such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.

- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

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

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

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

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

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

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

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

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

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.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 2-8-4][326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.11 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.12 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.13 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

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

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

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

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.15 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

- (AA) All calibration and maintenance records.
- (BB) All original strip chart recordings for continuous monitoring instrumentation.
- (CC) Copies of all reports required by the FESOP.

Records of required monitoring information include the following, where applicable:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.17 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Two (2) engine test cells, identified as Engine Test Cells 1 and 2, both approved in 2013 for construction, with the capability to test natural gas-fired and diesel fuel-fired Reciprocating Internal Combustion Engines, each consisting of one (1) Dynamometer, each engine has a maximum power output rating of 1,500 horsepower (HP), and will be limited to 1,200 horsepower (HP) by the Dynamometer, each exhausting through one (1) stack (Stacks 1 and 2).
- (b) One (1) engine test cell, identified as Engine Test Cell 3, approved in 2013 for construction, with the capability to test natural gas, diesel, and gasoline-fired engines, exhausting through one (1) stack (Stack 3).

(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 FESOP and PSD Minor Limit [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4 (FESOP), the total utilization of the three (3) engine test cells, (identified as Engine Test Cells 1, 2, and 3) measured in horsepower-hours, shall be limited such that the NO_x and CO emissions shall each not exceed ninety-five (95) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, in conjunction with the potential to emit CO and NO_x from all other emission units, shall limit the CO and NO_x emissions to less than two-hundred fifty (250) tons per twelve (12) consecutive month period, and render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

Compliance with this limit, in conjunction with the potential to emit NO_x and CO from all other emission units, shall limit the NO_x and CO emissions from the source to less than one-hundred (100) tons per twelve (12) consecutive month period, each, and renders the requirements of 326 IAC 2-7 (Part 70 Program) not applicable.

D.1.2 FESOP and BACT Limit [326 IAC 2-8-4] [326 IAC 8-1-6]

The total utilization of the Engine Test Cell 3, measured in horsepower-hours, shall be limited such that the VOC emissions shall be less than twenty-five (25) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit renders the requirements of 326 IAC 8-1-6 (BACT) not applicable to Engine Test Cell 3.

Compliance with this limit renders, in conjunction with the potential to emit VOC from all other emission units, shall limit VOC emissions from the source to less than one-hundred (100) tons per twelve (12) consecutive month period, and renders the requirements of 326 IAC 2-7 (Part 70 Program) not applicable.

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

D.1.3 Compliance Determination Requirements

In order to determine compliance with the emissions limits in Condition D.1.1 (FESOP and PSD Minor Limit) and D.1.2 (FESOP and BACT Minor Limit), the Permittee shall calculate monthly

emissions for NOx, VOC, and CO for the three (3) engine test cells using one of the following equations as appropriate for each type of engine and fuel:

- (a) Emissions from noncertified engines shall be calculated using AP-42 emission factors as stated in the following chart:

AP-42 Emission Factors	NOx	VOC	CO
Diesel Fuel - Less than or equal to 600 hp (lb/hp-hr)	0.031	2.47E-03	6.68E-03
Diesel Fuel - Greater than 600 hp (lb/hp-hr)	2.40E-02	7.05E-04	5.50E-03
Gasoline (lb/hp-hr)	0.011	0.02	6.96E-03
Natural Gas (lb/MMBtu)	4.08	1.18E-01	3.17E-01

Diesel and Gasoline:

$$E_{MX} = \left(\sum_{N=1}^i EF_{(AP-42)X} \times HP - HR_i \right) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
 $EF_{(AP-42)X}$ = AP-42 Emission Factor for Pollutant X for Fuel X (lb/hp-hr)
 $HP-HR_i$ = Maximum horsepower-hour operated during compliance period (hp-hr/month)

Natural Gas

$$E_{MX} = \left(\sum_{N=1}^i EF_{NGX} \times HP - HR_i \times BSFC_i \right) \times \frac{1}{1,000,000} (Btu/MMBtu) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
 EF_{NGX} = AP-42 Natural Gas Emission Factor for Pollutant X (lb/MMBtu)
 $HP-HR_i$ = Maximum horsepower-hour operated per month (hp-hr/month)
 $BSFC_i$ = Brake-specific fuel consumption (Btu/hp-hr)

When an average brake-specific fuel consumption (BSFC) is not available, the conversion factor of 7,000 Btu/hp-hr shall be used.

- (b) In lieu of calculated emissions as described in paragraph (a) of this condition, for engines certified to Tier 4 standards, the Permittee may use the following:

(1)

Tier 4 Emission Factors	NOx	VOC	CO
Diesel Fuel (g/kw-hr)	3.5	0.40	3.5

Diesel: Tier 4

$$E_{MX} = \left(\sum_{N=1}^i EF_{(\text{Tier } 4)X} \times HP - HR_i \times KW_i \right) \times \frac{1}{453.6} \left(\frac{lb}{grams} \right) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
- $EF_{(\text{Tier } 4)X}$ = Tier 4 Diesel Emission Factor for Pollutant X (g/kw-hr)
- $HP - HR_i$ = Maximum horsepower-hour operated per month (hp-hr/month)
- KW_i = Output Kilowatt Rating (kw)

When the output horsepower rating (hp) is not available, the conversion factor of 1 hp = 0.746 kw shall be used. Also, a conversion of 453.6 grams per pound will be used.

- (2) The source may use the family specific Tier 4 emission factors from the Engine Family and Models Information, Certification Test and Greenhouse Gas Data tables available online at <http://www.epa.gov/otaq/cert/eng-cert/nrci/nrci-cert-ghg-13.xls>.

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

D.1.4 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.1 (FESOP and PSD Minor Limit) and D.1.2 (FESOP and BACT Minor Limit), the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the utilization usage limits established in Condition D.1.1 (FESOP and PSD Minor Limit) and D.1.2 (FESOP and BACT Minor Limit). Records necessary to demonstrate compliance shall be available no later than 30 days after the end of each compliance period.
 - (1) A list of engines tested and the type of fuel burned by each engine each month, in the three (3) engine test cells.
 - (2) The horsepower-hours that each engine ran during testing for each month.
 - (3) Records of the emission factors used for NOx, VOC, and CO when combusting diesel, gasoline, and natural gas each month.
 - (4) The weight of NOx, VOC, and CO emitted for each compliance period.
 - (5) If the source uses emission factors as allowed under Condition D.1.3(b)(2), then records of the updated emission factors shall be maintained.
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligation

with regard to records required by this condition.

D.1.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.1 (PSD Minor Limit) and D.1.2 (BACT Minor Limit), shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, no later than thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Two (2) HVAC units, identified as H1 and H2, constructed in 2011, burning natural gas, each with a maximum capacity of 0.875 MMBtu/hr.
- (b) One (1) natural gas-fired boiler, identified as BOIL-1, approved in 2013 for construction, with a maximum rating of 52 horsepower.

(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 Emission Limitation for Sources of Indirect Heating [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), particulate emissions from the emission units listed in the table above, identified as H1, H2, and BOIL-1, shall be limited to 0.6 pounds per MMBtu heat input.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION

Source Name: CyberMetrix, Inc.
Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
FESOP Permit No.: F005-33071-00106

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

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

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

Source Name: CyberMetrix, Inc.
Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
FESOP Permit No.: F005-33071-00106

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16 |
|--|

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

FESOP Quarterly Report

Source Name: CyberMetrix, Inc.
Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
FESOP Permit No.: F005-33071-00106
Facility: Engine Test Cells 1, 2, and 3
Parameter: NOx emissions
Limit: Ninety-five (95) tons per twelve (12) consecutive month period

YEAR: _____

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

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

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

FESOP Quarterly Report

Source Name: CyberMetrix, Inc.
Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
FESOP Permit No.: F005-33071-00106
Facility: Engine Test Cells 1, 2, and 3
Parameter: CO emissions
Limit: Ninety-five (95) tons per twelve (12) consecutive month period

YEAR: _____

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

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

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

FESOP Quarterly Report

Source Name: CyberMetrix, Inc.
Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
FESOP Permit No.: F005-33071-00106
Facility: Engine Test Cell 3
Parameter: VOC emissions
Limit: Twenty-five (25) tons per twelve (12) consecutive month period

YEAR: _____

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

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: CyberMetrix, Inc.
 Source Address: 2860 National Road, Suite A, Columbus, Indiana 47201
 FESOP Permit No.: F005-33071-00106

Months: _____ **to** _____ **Year:** _____

<p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. 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".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

CyberMetrix, Inc.
2860 National Road, Suite A
Columbus, Indiana 47201

Affidavit of Construction

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

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of _____ for _____
(Title) (Company Name)
3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)
4. I hereby certify that CyberMetrix, Inc. 2860 National Road, Suite A, Columbus, Indiana 47201, completed construction of the engineering services facility on _____ in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on **Reviewer: Insert date application received at IDEM** and as permitted pursuant to New Source Construction Permit and Federally Enforceable State Operating Permit No. F005-33071-00106, Plant ID No. 005-00106 issued on _____.
5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

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

Signature _____
Date _____

STATE OF INDIANA)
)SS

COUNTY OF _____)

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

Signature _____
Name _____ (typed or printed)

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

**Technical Support Document (TSD) for an Exemption Transitioning to a
Federally Enforceable State Operating Permit (FESOP) with New Source
Review (NSR)**

Source Description and Location

Source Name:	CyberMetrix, Inc.
Source Location:	2860 National Road, Suite A, Columbus, Indiana 47201
County:	Bartholomew
SIC Code:	8711 (Engineering Services)
Operation Permit No.:	F005-33071-00106
Permit Reviewer:	Joshua Levering

On April 10, 2013, the Office of Air Quality (OAQ) received an application from CyberMetrix, Inc. related to the construction and operation of new emission units at an existing stationary engineering services facility and transition from an Exemption to a FESOP.

Existing Approvals

The source was issued Exemption Letter No. 005-30932-00106 on November 15, 2011.

Due to this application, the source is transitioning to a FESOP.

County Attainment Status

The source is located in Bartholomew County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

Unclassifiable or attainment effective April 5, 2005, for PM_{2.5}.

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Bartholomew 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}**
Bartholomew 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}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD).

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

Fugitive Emissions

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

Background and Description of New Source Review

The Office of Air Quality (OAQ) has reviewed an application, submitted by CyberMetrix, Inc. on April 10, 2013, relating to the construction of three (3) engine test cells. Two (2) of the engine test cells will test U.S. EPA Tier 4 certified engines rated at a maximum of 1,500 brake-horsepower; the other one (1) engine test cell will test a variety of natural gas, diesel fuel, and gasoline-fired engines with a maximum rating of 1,500 brake-horsepower. The resulting increase in fuel usage and subsequent potential to emit requires a transition from an Exemption to a FESOP.

The following is a list of the new emission units:

- (a) Two (2) engine test cells, identified as Engine Test Cells 1 and 2, both approved in 2013 for construction, with the capability to test natural gas-fired and diesel fuel-fired Reciprocating Internal Combustion Engines, each consisting of one (1) Dynamometer, each engine has a maximum power output rating of 1,500 horsepower (HP), and will be limited to 1,200 horsepower (HP) by the Dynamometer, each exhausting through one (1) stack (Stacks 1 and 2).
- (b) One (1) engine test cell, identified as Engine Test Cell 3, approved in 2013 for construction, with the capability to test natural gas, diesel, and gasoline-fired engines, exhausting through one (1) stack (Stack 3).
- (c) One (1) natural gas-fired boiler, identified as BOIL-1, approved in 2013 for construction, with a maximum rating of 52 horsepower.

The source consists of the following units that were listed in Exemption No. 005-30932-00106.

- (a) Two (2) HVAC units, identified as H1 and H2, approved for construction in 2011, burning natural gas, each with a maximum capacity of 0.875 MMBtu/hr.

The following emission units were acknowledged in Exemption No. 005-30932-00106 but never constructed at the source:

- (a) One (1) engine test cell, identified as TC1, approved for construction in 2011, utilizing an engine with a maximum capacity of 471 bhp and 4050 cfm of natural gas and exhausting to stacks S-TC1A, and S-TC1B. This engine test cell will be used to test stationary reciprocating internal combustion engines (RICE).
- (b) One (1) engine test cell, identified as TC2, approved for construction in 2011, utilizing an engine with a maximum capacity of 471 bhp and 4050 cfm of natural gas and exhausting to stacks S-

TC2A, and S-TC2B. This engine test cell will be used to test stationary reciprocating internal combustion engines (RICE).

- (c) Two (2) air handling units, identified as AH1 and AH2, approved for construction in 2011, burning natural gas each with a maximum capacity of 1.00 MMBtu/hr.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – FESOP

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

Pollutant	Potential To Emit (tons/year)
PM	13.95
PM10 ⁽¹⁾	10.07
PM2.5 ⁽¹⁾	10.07
SO ₂	57.04
NO _x	531.58
VOC	109.00
CO	484.61
GHGs as CO ₂ e	23,942.06

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10) and particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM2.5), not particulate matter (PM), are each considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Formaldehyde	7.20
Acetaldehyde	1.01
Acrolein	1.01
Benzene	0.25
Hexane	0.09
TOTAL HAPs	10.21

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of NOx, VOC, and CO are each greater than one hundred (100) tons per year. The PTE of all other regulated criteria pollutants are each less than one hundred (100) tons per year. The source would have been subject to the provisions of 326 IAC 2-7. However, the source will be issued a New Source Construction Permit (326 IAC 2-5.1-3) and a Federally Enforceable State Operating Permit (FESOP) (326 IAC 2-8), because the source will limit emissions to less than the Title V major source threshold levels.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

- (c) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.

PTE of the Entire Source After Issuance of the FESOP

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of FESOP (tons/year)									
	PM	PM10*	PM2.5*	SO ₂	NOx	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Engine Test Cell 1	4.60	2.64	2.64	26.58	<95	5.20	<95	7,648.89	3.41	2.39 Formaldehyde
Engine Test Cell 2	4.60	2.64	2.64	26.58		5.20		7,648.89	3.41	2.39 Formaldehyde
Engine Test Cell 3	4.74	4.74	4.74	3.88		<25		7,648.89	3.41	2.39 Formaldehyde
H1 & H2	0.01	0.06	0.06	4.60E-03	0.77	0.04	0.64	925.40	0.01	0.01 Hexane
BOIL-1	1.10E-03	4.41E-03	4.41E-03	3.48E-04	0.06	3.19E-03	0.05	69.68	1.09E-03	1.04E-03 Hexane
Total PTE of Entire Source	13.95	10.07	10.07	57.04	95.82	35.45	95.69	23,942.06	<25	<10
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
Nonattainment NSR Major Source Thresholds	--	--	--	--	--	--	--	NA	NA	NA
negl. = negligible *Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant". **The 100,000 CO ₂ e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.										

- (a) **FESOP Status**
 This existing source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

- (1) The total utilization of the three (3) engine test cells, identified as Engine Test Cells 1, 2, and 3, measured in horsepower-hours, shall be limited such that the NO_x and CO emissions shall each not exceed ninety-five (95) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (2) The total utilization of the test cell, identified as Engine Test Cell 3, shall be limited such that the VOC emissions shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limits combined with the potential to emit CO, NO_x, and VOC from all other emission units at this source, shall limit the source-wide potential to emit of CO, NO_x and VOC to less than one-hundred (100) tons per twelve (12) consecutive month period and renders the requirements of 326 IAC 2-7 (Part 70 Program) not applicable.

(b) PSD Minor Source

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit all criteria pollutants is limited to less than 250 tons per year, the potential to emit all attainment regulated criteria pollutants are less than 250 tons per year, the potential to emit greenhouse gases (GHGs) is less than the PSD subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

- (1) The total utilization of the three (3) engine test cells, identified as Engine Test Cells 1, 2, and 3, measured in horsepower-hours, shall be limited such that the CO and NO_x emissions shall not exceed ninety-five (95) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit, in conjunction with the potential to emit CO and NO_x from all other emission units, shall limit the CO and NO_x emissions from the source to less than two-hundred fifty (250) tons per twelve (12) consecutive month period, and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60.4200, Subpart IIII, are not included in the permit, since the provisions of this subpart are not applicable to stationary CI (compression ignition) ICE (internal combustion engines) being tested at a stationary CI ICE test cell or stand as stated in 40 CFR 60.4200(b).
- (b) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60.4230, Subpart JJJJ, are not included in the permit, since the provisions of this subpart are not applicable to stationary SI (spark ignition) ICE (internal combustion engines) being tested at an engine test cell or stand as stated in 40 CFR 60.4230(b).

- (c) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR 63.6580, Subpart ZZZZ, due to the specific exemption of the stationary RICE being tested at a test cell/stand, as stated in 40 CFR 63.6585. Therefore, the requirements of the NESHAP are not included in the permit.
- (b) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Engine Test Cells/Stands, 40 CFR 63.9280, Subpart P, because the engine test cells are not located at a major source of HAP emissions, as stated in 40 CFR 63.9285. Therefore, the requirements of the NESHAP are not included in the permit.
- (c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

- (a) 326 IAC 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
This source is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the all emission units is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (d) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (e) 326 IAC 5-1 (Opacity Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

- (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

Engine Test Cells 1, 2, and 3

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1.5(2), the requirements of 326 IAC 6-3-2 are not applicable to the Engine Test Cells 1, 2, and 3 since the Engine Test Cells do not participate in the production of a product.
- (b) 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)
The requirements of 326 IAC 7-1.1-1 are applicable to the Engine Test Cells 1, 2, and 3; however, these units are not subject to the sulfur dioxide emission limitations from fuel combustion emissions units pursuant to 326 IAC 7-1.1-2 because they do not combust residual or distillate oil.
- (c) 326 IAC 10-1-1 (Nitrogen Oxides Control in Clark and Floyd Counties)
Pursuant to 326 IAC 10-1-1, the Engine Test Cells 1, 2, and 3 are not subject to the requirements of 326 IAC 10-1-1 since this facility is not located in Clark or Floyd County.

Engine Test Cell 3

- (a) 326 IAC 8-1-6 (New Facilities; General Reduction Requirements)
The total utilization of the Engine Test Cell 3, measured in horsepower-hours, shall be limited such that the VOC emissions shall be less than twenty-five (25) tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limit renders the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) not applicable to Engine Test Cell 3.

H1 & H2

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(a), the HVAC units (H1 and H2) are not subject to the requirements of 326 IAC 6-3-2 since they are not part of a manufacturing process.

BOIL-1

- (a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(1), the boiler, identified as BOIL-1, is not subject to the requirements of 326 IAC 6-3-2 since it is an indirect combustion unit.

H1 & H2 and BOIL-1

- (a) 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).

Q = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu.

Indirect Heating Units Which Began Operation After September 21, 1983						
Facility	Construction Date	Operating Capacity (MMBtu/hr)	Q (MMBtu/hr)	Calculated Pt (lb/MMBtu)	Particulate Limitation, (Pt) (lb/MMBtu)	PM PTE based on AP-42 (lb/MMBtu)
H1 and H2	2011	1.75	1.75	0.942	0.6	0.002
BOIL-1	2013	0.13	1.88	0.925	0.6	0.002

Where: Q = Includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.

Compliance Determination, Monitoring and Testing Requirements

Permits issued under 326 IAC 2-8 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 2-8-4. 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.

Compliance Determination Requirements

In order to demonstrate compliance with FESOP, PSD Minor Limit, and BACT Minor Limit, the Permittee shall calculate monthly emissions for NOx, VOC, and CO for the three (3) engine test cells using one of the following equations as appropriate for each type of engine and fuel:

- (a) Emissions from noncertified engines shall be calculated using AP-42 emission factors as stated in the following chart:

AP-42 Emission Factors	NOx	VOC	CO
Diesel Fuel - Less than or equal to 600 hp (lb/hp-hr)	0.031	2.47E-03	6.68E-03
Diesel Fuel - Greater than 600 hp (lb/hp-hr)	2.40E-02	7.05E-04	5.50E-03
Gasoline (lb/hp-hr)	0.011	0.02	6.96E-03
Natural Gas (lb/MMBtu)	4.08	1.18E-01	3.17E-01

Diesel and Gasoline:

$$E_{MX} = \left(\sum_{N=1}^i EF_{(AP-42)X} \times HP - HR_i \right) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
- $EF_{(AP-42)X}$ = AP-42 Emission Factor for Pollutant X for Fuel X (lb/hp-hr)
- $HP - HR_i$ = Maximum horsepower-hour operated during compliance period (hp-hr/month)

Natural Gas

$$E_{MX} = \left(\sum_{N=1}^i EF_{NGX} \times HP - HR_i \times BSFC_i \right) \times \frac{1}{1,000,000} (Btu/MMBtu) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
 - EF_{NGX} = AP-42 Natural Gas Emission Factor for Pollutant X (lb/MMBtu)
 - $HP - HR_i$ = Maximum horsepower-hour operated per month (hp-hr/month)
 - $BSFC_i$ = Brake-specific fuel consumption (Btu/hp-hr)
- When an average brake-specific fuel consumption (BSFC) is not available, the conversion factor of 7,000 Btu/hp-hr shall be used.

(b) In lieu of calculated emissions as described in paragraph (a) of this condition, for engines certified to Tier 4 standards, the Permittee may use the following:

(1)

Tier 4 Emission Factors	NOx	VOC	CO
Diesel Fuel (g/kw-hr)	3.5	0.40	3.5

Diesel: Tier 4

$$E_{MX} = \left(\sum_{N=1}^i EF_{(\text{Tier } 4)X} \times HP - HR_i \times KW_i \right) \times \frac{1}{453.6} \left(\frac{lb}{grams} \right) \times 1/2,000 \left(\frac{lb}{ton} \right)$$

Where:

- E_{MX} = Monthly Emission for Pollutant X (tons/month)
 $EF_{(\text{Tier } 4)X}$ = Tier 4 Diesel Emission Factor for Pollutant X (g/kw-hr)
 $HP-HR_i$ = Maximum horsepower-hour operated per month (hp-hr/month)
 KW_i = Output Kilowatt Rating (kw)
When the output horsepower rating (hp) is not available, the conversion factor of 1 hp = 0.746 kw shall be used. Also, a conversion of 453.6 grams per pound will be used.

- (2) The source may use the family specific Tier 4 emission factors from the Engine Family and Models Information, Certification Test and Greenhouse Gas Data tables available online at <http://www.epa.gov/otaq/cert/eng-cert/nrci/nrci-cert-ghg-13.xls>.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on April 10, 2013.

The construction and operation of this source shall be subject to the conditions of the attached proposed New Source Review and FESOP No. 005-33071-00106. The staff recommends to the Commissioner that this New Source Review and FESOP be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Joshua Levering 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) 234-6543 or toll free at 1-800-451-6027 extension 4-6543.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

Source Summary

Company Name: CyberMetrix Inc.
 Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
 Permit Number: F005-33071-00106
 Reviewer: Joshua Levering
 Date: August, 2013

Emission Units	Fuel type	Emission Factors	Pollutant (Potential to Emit in tons/year)										Single HAP
			PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO	GHGs	Total HAPS		
Test Cell 1	Natural Gas*	AP-42	1.67	2.09	2.09	0.03	176.92	5.20	161.31	5,937.07	3.41	2.39	Formaldehyde
	Diesel Fuel	AP-42	4.60	2.64	2.64	26.58	157.68	4.63	36.14	7,648.89	0.07	0.04	Benzene
	Diesel Fuel	Tier 4	0.43	2.64	2.64	26.58	37.82	4.63	37.82	--	--	--	--
	Worst Case PTE		4.60	2.64	2.64	26.58	176.92	5.20	161.31	7,648.89	3.41	2.39	Benzene
Test Cells 2	Natural Gas*	AP-42	1.67	2.09	2.09	0.03	176.92	5.20	161.31	5,937.07	3.41	2.39	Formaldehyde
	Diesel Fuel	AP-42	4.60	2.64	2.64	26.58	157.68	4.63	36.14	7,648.89	0.07	0.04	Benzene
	Diesel Fuel	Tier 4	0.43	2.64	2.64	26.58	37.82	4.63	37.82	--	--	--	--
	Worst Case PTE		4.60	2.64	2.64	26.58	176.92	5.20	161.31	7,648.89	3.41	2.39	Benzene
Test Cell 3	Gasoline	AP-42	4.74	4.74	4.74	3.88	72.27	98.55	45.73	7,648.89	0.06	0.02	Formaldehyde
	Natural Gas*	AP-42	1.67	2.09	2.09	0.03	176.92	5.20	161.31	5,937.07	3.41	2.39	Formaldehyde
	Worst Case PTE		4.74	4.74	4.74	3.88	176.92	98.55	161.31	7,648.89	3.41	2.39	Formaldehyde
H1 & H2		0.01	0.06	0.06	4.60E-03	0.77	0.04	0.64	925.40	0.01	0.01	Hexane	
BOIL-1		1.10E-03	4.41E-03	4.41E-03	3.48E-04	0.06	3.19E-03	0.05	69.98	1.09E-03	1.04E-03	Hexane	
Total Worst Case PTE			13.95	10.07	10.07	57.04	531.58	109.00	484.61	23,942.06	10.24	7.20	Formaldehyde

*Natural Gas emissions represent the worst case from three separate types of natural gas-fired engines: 2-Stroke Lean-Burn, 4-Stroke Lean-Burn, and 4-Stroke Rich-Burn.

Emission Units	Limited Potential to Emit (tons/year)				NOx (tons/yr)	VOC (tons/yr)	CO (tons/yr)	GHG (tons/yr)	Total HAPs (tons/yr)	Single HAP (tons/yr)	
	PM (tons/yr)	PM10 (tons/yr)	PM2.5 (tons/yr)	SO2 (tons/yr)							
Test Cell 1	4.60	2.64	2.64	26.58	<95	5.20	<95	7,648.89	3.41	2.39	Formaldehyde
Test Cell 2	4.60	2.64	2.64	26.58		5.20		7,648.89	3.41	2.39	Formaldehyde
Test Cell 3	4.74	4.74	4.74	3.88	0.77	<25	0.64	7,648.89	3.41	2.39	Formaldehyde
H1 & H2	0.01	0.06	0.06	4.60E-03		0.04		925.40	0.01	0.01	Hexane
BOIL-1	1.10E-03	4.41E-03	4.41E-03	3.48E-04	0.06	3.19E-03	0.05	69.98	1.09E-03	1.04E-03	Hexane
Total Emissions	13.95	10.07	10.07	57.04	95.82	35.45	95.69	23,942.06	<25	<10	

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)
Test Cell 1

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	1500.0
Output Kilowatt Rating (kw)	1119.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	13,140,000
Potential Throughput (kw-hr/yr)	9,802,440
Sulfur Content (S) of Fuel (% by weight)	0.500

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 (.00809S)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	4.60	2.64	2.64	26.58	157.68	4.63	36.14

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Tier 4 Emission Factors	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in g/kw-hr	0.04				3.5		3.5
Emission Factor in lb/hp-hr		4.01E-04	4.01E-04	4.05E-03 (.00809S)		7.05E-04	
Potential Emission in tons/yr	0.43	2.64	2.64	26.58	37.82	4.63	37.82

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	3.57E-02	1.29E-02	8.88E-03	3.63E-03	1.16E-03	3.62E-04	9.75E-03

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	7.24E-02
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Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.16E+00	6.35E-05	9.30E-06
Potential Emission in tons/yr	7.62E+03	4.17E-01	6.11E-02

Summed Potential Emissions in tons/yr	7.62E+03
CO2e Total in tons/yr	7.65E+03

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)
Maximum Input Rate (>4.2 MMBtu/hr)
Test Cell 2

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	1500.0
Output Kilowatt Rating (kw)	1119.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	13,140,000
Potential Throughput (kw-hr/yr)	9,802,440
Sulfur Content (S) of Fuel (% by weight)	0.500

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 (.00809S)	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	4.60	2.64	2.64	26.58	157.68	4.63	36.14

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Tier 4 Emission Factors	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in g/kw-hr	0.04				3.5		3.5
Emission Factor in lb/hp-hr		4.01E-04	4.01E-04	4.05E-03 (.00809S)		7.05E-04	
Potential Emission in tons/yr	0.43	2.64	2.64	26.58	37.82	4.63	37.82

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	3.57E-02	1.29E-02	8.88E-03	3.63E-03	1.16E-03	3.62E-04	9.75E-03

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	7.24E-02
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Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.16E+00	6.35E-05	9.30E-06
Potential Emission in tons/yr	7.62E+03	4.17E-01	6.11E-02

Summed Potential Emissions in tons/yr	7.62E+03
CO2e Total in tons/yr	7.65E+03

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
2-Stroke Lean-Burn (2SLB) Engines
One (1) Test Cell**

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Maximum Output Horsepower Rating (hp)	1500
Brake Specific Fuel Consumption (BSFC) (Btu/hp-hr)	6600
Maximum Hours Operated per Year (hr/yr)	8760
Potential Fuel Usage (MMBtu/yr)	86724
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	85.02

Criteria Pollutants	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	3.84E-02	4.83E-02	4.83E-02	5.88E-04	3.17E+00	1.20E-01	3.86E-01
Potential Emissions (tons/yr)	1.67	2.09	2.09	0.025	137.46	5.20	16.74

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	7.76E-03	0.336
Acrolein	7.78E-03	0.337
Benzene	1.94E-03	0.084
1,3-Butadiene	8.20E-04	0.036
Ethylbenzene	1.08E-04	0.005
Formaldehyde	5.52E-02	2.394
Methanol	2.48E-03	0.108
Methylene Chloride	1.47E-04	0.006
Hexane	4.45E-04	0.019
Toluene	9.63E-04	0.042
2,2,4-Trimethylpentane	8.46E-04	0.037
Total PAH**	1.34E-04	0.006
Total		3.41

HAP pollutants consist of the twelve highest HAPs included in AP-42 Table 3.2-1.
**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-1
Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]
Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Greenhouse Gases (GHGs)	Greenhouse Gas (GHG)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu*	110	1.25	
Emission Factor in lb/MMcf**			2.2
Potential Emission in tons/yr	4769.82	54.20	0.09
Summed Potential Emissions in tons/yr	4824.12		
CO2e Total in tons/yr	5937.07		

Methodology

*The CO2 and CH4 emission factors are from Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2
**The N2O emission factor is from AP 42, Table 1.4-2. The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
For CO2 and CH4: Emission (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]
For N2O: Emission (tons/yr) = [Potential Fuel Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] / [2,000 lb/ton]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Abbreviations

PM = Particulate Matter	NOx = Nitrous Oxides	CO2 = Carbon Dioxide
PM10 = Particulate Matter (<10 um)	VOC = Volatile Organic Compounds	CH4 = Methane
SO2 = Sulfur Dioxide	CO = Carbon Monoxide	N2O = Nitrous Oxide
		CO2e = CO2 equivalent emissions

**Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Lean-Burn (4SLB) Engines
One (1) Test Cell**

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Maximum Output Horsepower Rating (hp)	1500
Brake Specific Fuel Consumption (BSFC) (Btu/hp-hr)	6600
Maximum Hours Operated per Year (hr/yr)	8760
Potential Fuel Usage (MMBtu/yr)	86724
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	85.02

Criteria Pollutants	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	7.71E-05	9.99E-03	9.99E-03	5.88E-04	4.08E+00	1.18E-01	3.17E-01
Potential Emissions (tons/yr)	0.0033	0.43	0.43	0.025	176.92	5.12	13.75

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	8.36E-03	0.363
Acrolein	5.14E-03	0.223
Benzene	4.40E-04	0.019
Biphenyl	2.12E-04	0.009
1,3-Butadiene	2.67E-04	0.012
Formaldehyde	5.28E-02	2.290
Methanol	2.50E-03	0.108
Hexane	1.10E-03	0.048
Toluene	4.08E-04	0.018
2,2,4-Trimethylpentane	2.50E-04	0.011
Xylene	1.84E-04	0.008
Total		3.11

HAP pollutants consist of the eleven highest HAPs included in AP-42 Table 3.2-2.

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2
 Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]
 Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Greenhouse Gases (GHGs)	Greenhouse Gas (GHG)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu*	110	1.25	
Emission Factor in lb/MMcf**			2.2
Potential Emission in tons/yr	4769.82	54.20	0.09
Summed Potential Emissions in tons/yr	4824.12		
CO2e Total in tons/yr	5937.07		

Methodology

*The CO2 and CH4 emission factors are from Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2
 **The N2O emission factor is from AP 42, Table 1.4-2. The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 For CO2 and CH4: Emission (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]
 For N2O: Emission (tons/yr) = [Potential Fuel Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] / [2,000 lb/ton]
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Abbreviations

PM = Particulate Matter	NOx = Nitrous Oxides	CO2 = Carbon Dioxide
PM10 = Particulate Matter (<10 um)	VOC = Volatile Organic Compounds	CH4 = Methane
SO2 = Sulfur Dioxide	CO = Carbon Monoxide	N2O = Nitrous Oxide
		CO2e = CO2 equivalent emissions

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
4-Stroke Rich-Burn (4SRB) Engines
One (1) Test Cell

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Maximum Output Horsepower Rating (hp)	1500
Brake Specific Fuel Consumption (BSFC) (Btu/hp-hr)	6600
Maximum Hours Operated per Year (hr/yr)	8760
Potential Fuel Usage (MMBtu/yr)	86724
High Heat Value (MMBtu/MMscf)	1020
Potential Fuel Usage (MMcf/yr)	85.02

Criteria Pollutants	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor (lb/MMBtu)	9.50E-03	1.94E-02	1.94E-02	5.88E-04	2.21E+00	2.96E-02	3.72E+00
Potential Emissions (tons/yr)	0.4119	0.84	0.84	0.025	95.83	1.28	161.31

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.
 PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

Pollutant	Emission Factor (lb/MMBtu)	Potential Emissions (tons/yr)
Acetaldehyde	2.79E-03	0.121
Acrolein	2.63E-03	0.114
Benzene	1.58E-03	0.069
1,3-Butadiene	6.63E-04	0.029
Formaldehyde	2.05E-02	0.889
Methanol	3.06E-03	0.133
Total PAH**	1.41E-04	0.006
Toluene	5.58E-04	0.024
Xylene	1.95E-04	0.008
Total		1.39

HAP pollutants consist of the nine highest HAPs included in AP-42 Table 3.2-3.

**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-3

Potential Fuel Usage (MMBtu/yr) = [Maximum Output Horsepower Rating (hp)] * [Brake Specific Fuel Consumption (Btu/hp-hr)] * [Maximum Hours Operated per Year (hr/yr)] / [1000000 Btu/MMBtu]

Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Greenhouse Gases (GHGs)	Greenhouse Gas (GHG)		
	CO2	CH4	N2O
Emission Factor in lb/MMBtu*	110	1.25	
Emission Factor in lb/MMcf**			2.2
Potential Emission in tons/yr	4769.82	54.20	0.09
Summed Potential Emissions in tons/yr	4824.12		
CO2e Total in tons/yr	5937.07		

Methodology

*The CO2 and CH4 emission factors are from Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-2

**The N2O emission factor is from AP 42, Table 1.4-2. The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

For CO2 and CH4: Emission (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2,000 lb/ton]

For N2O: Emission (tons/yr) = [Potential Fuel Usage (MMCF/yr)] * [Emission Factor (lb/MMCF)] / [2,000 lb/ton]

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 SO2 = Sulfur Dioxide

NOx = Nitrous Oxides
 VOC = Volatile Organic Compounds
 CO = Carbon Monoxide

CO2 = Carbon Dioxide
 CH4 = Methane
 N2O = Nitrous Oxide
 CO2e = CO2 equivalent emissions

updated 10/2012

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Gasoline Fuel
Test Cell 3

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	1500.0
Output Rating (MMBtu)	3.8
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	13,140,000
Sulfur Content (S) of Fuel (% by weight)	0.500

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.21E-04	7.21E-04	7.21E-04	5.91E-04	0.011	0.02	6.96E-03
Potential Emission in tons/yr	4.74	4.74	4.74	3.88	72.27	98.55	45.73

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/MMBtu	9.33E-04	4.09E-04	2.85E-04	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Potential Emission in tons/yr	1.56E-02	6.84E-03	4.77E-03	1.97E-02	1.28E-02	1.55E-03	2.81E-03

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu (AP-42 Table 3.3-2).

Potential Emission of Total HAPs (tons/yr)	6.41E-02
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Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.16E+00	6.35E-05	9.30E-06
Potential Emission in tons/yr	7.62E+03	4.17E-01	6.11E-02

Summed Potential Emissions in tons/yr	7.62E+03
CO2e Total in tons/yr	7.65E+03

Methodology

Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.

CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]

Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O

Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Misc. Combustion**

Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013

Emissions Unit	MMBtu/hr
H1	0.875
H2	0.875
Totals	1.75

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
1.75	1000	15.3

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.01	0.06	0.06	0.00	0.77	0.04	0.64

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 PM2.5 emission factor is filterable and condensable PM2.5 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 9 for HAPs emissions calculations.

updated 7/11

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions
Misc. Combustion**

Company Name: CyberMetrix, Inc
Address City IN Zip: 2860 National Road, Suite A, Columbus, IN 47201
Permit Number: F005-33071-00106
Plt ID: 005-00106
Reviewer: Joshua Levering
Date: August, 2013

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.610E-05	9.198E-06	5.749E-04	1.380E-02	2.606E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.833E-06	8.432E-06	1.073E-05	2.913E-06	1.610E-05

Methodology is the same as page 1.

Total HAPs	1.44E-02
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The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 See Page 10 for Greenhouse Gas calculations.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Greenhouse Gas Emissions
Misc. Combustion**

Company Name: CyberMetrix, Inc
Address City IN Zip: 2860 National Road, Suite A, Columbus, IN 47201
Permit Number: F005-33071-00106
Plt ID: 005-00106
Reviewer: Joshua Levering
Date: August, 2013

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	920	0.0	0.0
Summed Potential Emissions in tons/yr	920		
CO2e Total in tons/yr	925		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Misc. Combustion**

**Company Name: CyberMetrix Inc.
Address City IN Zip: 2860 National Road, Suite A, Columbus, Indiana 47201
Permit Number: F005-33071-00106
Reviewer: Joshua Levering
Date: August, 2013**

One (1) natural gas-fired boiler, identified as BOIL-1, with a maximum rating of 52 horsepower.

Emissions Unit	hp rating	Btu/hour	MMBtu/hr
BOIL-1	52.00	2,545.00	0.13

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
0.13	1000	1.2

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx 100 **see below	VOC	CO
Potential Emission in tons/yr	1.10E-03	4.41E-03	4.41E-03	3.48E-04	0.06	3.19E-03	0.05

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

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03

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

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

See page 12 for HAPs emissions calculations.

updated 7/11

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
HAPs Emissions
Misc. Combustion**

Company Name: CyberMetrix, Inc
Address City IN Zip: 2860 National Road, Suite A, Columbus, IN 47201
Permit Number: F005-33071-00106
Plt ID: 005-00106
Reviewer: Joshua Levering
Date: August, 2013

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.217E-06	6.956E-07	4.347E-05	1.043E-03	1.971E-06

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.898E-07	6.376E-07	8.115E-07	2.203E-07	1.217E-06

Methodology is the same as page 1.

Total HAPs	1.09E-03
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The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.
 See Page 13 for Greenhouse Gas calculations.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Greenhouse Gas Emissions
 Misc. Combustion**

Company Name: CyberMetrix, Inc
Address City IN Zip: 2860 National Road, Suite A, Columbus, IN 47201
Permit Number: F005-33071-00106
Plt ID: 005-00106
Reviewer: Joshua Levering
Date: August, 2013

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	70	0.0	0.0
Summed Potential Emissions in tons/yr	70		
CO2e Total in tons/yr	70		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
 Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
 Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
 CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Tim Kirch
CyberMetrix, Inc.
2860 National Road, Ste A
Columbus, IN 47201

DATE: October 22, 2013

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

SUBJECT: Final Decision
New Source Construction & FESOP
005-33071-00106

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:
Paul Dubenetzky – Qepi/HIS 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.

Final Applicant Cover letter.dot 6/13/2013



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

October 22, 2013

TO: Bartholomew County Public Library

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

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

Applicant Name: CyberMetrix, Inc.
Permit Number: 005-33071-00106

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 6/13/2013

Mail Code 61-53

IDEM Staff	GHOTOPP 10/22/2013 CyberMetrix Inc 005-33071-00106 Final		Type of Mail: CERTIFICATE OF MAILING ONLY	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
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