



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: October 30, 2012

RE: Terra Drive Systems / 181-31817-00031

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot12/03/07



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Minor Source Operating Permit Renewal OFFICE OF AIR QUALITY

Terra Drive Systems, Inc.
9098 W 800 S
Brookston, Indiana 47923

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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

Operation Permit No. M181-31817-00031	
Issued by:  Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: October 30, 2012 Expiration Date: October 30, 2022

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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 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

The Permittee owns and operates a stationary metal hydraulic axle assembly and painting plant.

Source Address:	9098 W 800 S, Brookston, Indiana 47923
General Source Phone Number:	(219) 279-3537
SIC Code:	3499 (Fabricated Metal Products, Not Elsewhere Classified), 7692 (Welding Repair), 3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified)
County Location:	White
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source 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

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

- (a) One (1) paint booth main, identified as PBM, formerly identified as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (b) One (1) propane-fired paint booth prime coat curing oven, identified as PBPCCO, formerly identified as main booth curing oven (MBCO), exhausted through stack 4S4A in Building 4, with a heat input capacity of 0.8 MMBtu/hr.
- (c) One (1) propane-fired evaporator, identified as EVAP1, exhausted through stack 4S6A in Building 4, with a heat input capacity of 0.395 MMBtu/hr.
- (d) One (1) propane-fired space heater, identified as SH1, exhausted through stack 2S3A in Building 2, with a heat input capacity of 0.130 MMBtu/hr.
- (e) One (1) propane-fired dry off oven, identified as DO1, exhausted through stack 4S2A in Building 4, with a heat input capacity of 0.8 MMBtu/hr.
- (f) Seven (7) propane-fired space heaters, identified as CRVT2:#1 - #7, exhausted through stack 5S2A in Building 5, with a heat input capacity of 0.42 MMBtu/hr each.
- (g) Eight (8) propane-fired space heaters, identified as CRVT3:#1 - #8, exhausted through stack 5S3A in Building 5, with a heat input capacity of 0.48 MMBtu/hr each.
- (h) Two (2) propane-fired space heaters, identified as MSH1 and MSH2, exhausted through

stacks 2S1A and 2S2A in Building 2, with a heat input capacity of 0.13 MMBtu each.

- (i) One (1) propane-fired space heater, identified as REZ1, exhausted through stack 4S5A in Building 4, with a heat input capacity of 0.40 MMBtu/hr.
- (j) One (1) propane-fired space heater, identified as REZ2, exhausted through stack 5S8A in Building 5, with a heat input capacity of 0.40 MMBtu/hr.
- (k) One (1) propane-fired immersion tube heater, identified as WTS1B, exhausted through stack 4S1A in Building 4, with a heat input capacity of 1.50 MMBtu/hr.
- (l) One (1) wash tank washer entrance and exit, identified as WTEN and WTEX, exhausted through stacks 4S1B and 4S1C, respectively, in Building 4, with a capacity of 8.68 lbs/hr of washing solution, total.
- (m) One (1) cold cleaner degreaser for drive assemblies, identified as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, with a capacity of 4.91 gal/day of mineral spirits.
- (n) One (1) cold cleaner degreaser for hose assemblies, identified as HACD1, constructed before July 1, 1990, but after January 1, 1980, located in Building 5, with a capacity of 1.68 gal/day of a mixture of Simple Green and water.
- (o) Seventeen (17) MIG welding stations, each with a capacity of 5 lbs/hr of welding wire. Units MIG8 and MIG10 are located in Building 2. Unit MIG36 is located in Building 3. Units MIG6, MIG7, MIG12, MIG13, MIG15, MIG18, MIG19, MIG20, MIG25, MIG27, MIG35, MIG37, MIG38, and MIG39 are located in Building 5.
- (p) One (1) stick welding station, identified as SW1 located in Building 2, with a capacity of 0.53 lbs/hr of welding rod.
- (q) One (1) plasma cutter located in Building 5, which cuts steel of different thicknesses ranging from 3/16th of inch to 2 inches. The cutting speeds for the plasma are: 2" - 30" in/min, 1 1/2" - 48" in/min, 1 1/4" - 60" in/min, 1" - 65" in/min, 1/2" - 80" in/min, 1/4 & 3/8" - 110" in/min, and 3/16" - 110 in/min.
- (r) One (1) propane-fired paint booth main curing oven, identified as PBMCO, exhausted through stack 4S8A in Building 4, with a heat input capacity of 1.5 MMBtu/hr.
- (s) One (1) paint booth for prime coat, identified as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (t) One (1) propane-fired radiant space heater, identified as 2S4A, exhausted through stack 2S4A in Building 4; heat input capacity of 25,000 Btu/hr.
- (u) One (1) propane-fired make up air unit for the primer booth, identified as 4V3A, exhausted through vent 4V3A; heat input capacity of 2 MMBtu/hr.
- (v) Three (3) modine propane-fired space heaters, installed in 2012, identified as 3S1A, 3S2A, and 3S3A, exhausting through stacks 3S1A, 3S2A, and 3S3A in Building 3, with a maximum heat input capacity of 0.48 MMBtu/hr.
- (w) Two (2) modine propane-fired space heaters, installed in 2012, identified as 5S9A and 5S10A, exhausting through stacks 5S9A and 5S10A in Building 5, with a maximum heat input capacity of 0.48 MMBtu/hr.

SECTION B GENERAL CONDITIONS

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

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 2-1.1-1) shall prevail.

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

- (a) This permit, M181-31817-00031, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

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

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

B.4 Enforceability

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

B.5 Severability

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

B.6 Property Rights or Exclusive Privilege

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

B.7 Duty to Provide Information

- (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.8 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.9 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
 - (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.

The Permittee shall implement the PMPs.
- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, 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 Permittee shall implement the PMPs.

- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.10 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M181-31817-00031 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.11 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.12 Permit Renewal [326 IAC 2-6.1-7]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require an affirmation that the statements in the application are true and complete 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 one hundred twenty (120) days prior to the date of the expiration of this permit; and

- (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.13 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- (c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.14 Source Modification Requirement

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

B.15 Inspection and Entry
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][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 permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.16 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application which shall be submitted by the Permittee does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.17 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.18 Credible Evidence [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 2-6.1-5(a)(1)]

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

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

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

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.

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

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

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

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.
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (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 2-6.1-5(a)(2)]

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

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

C.11 Instrument Specifications [326 IAC 2-1.1-11]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps

C.12 Response to Excursions or Exceedances

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.13 Actions Related to Noncompliance Demonstrated by a Stack Test

- (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.

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

C.14 Malfunctions Report [326 IAC 1-6-2]

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

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

C.15 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, 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 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

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

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or

certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

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

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) paint booth main, identified as PBM, formerly identified as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (s) One (1) paint booth for prime coat, identified as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.

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

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

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the Permittee shall comply with the following for the paint booth main (PBM):

- (a) The volatile organic compound (VOC) content of the coating delivered to the applicator at the surface coating facilities shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried and forced warm air dried coatings.
- (b) Work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not be limited to, the following:
 - (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
 - (5) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate from the surface coating processes, identified as paint booth main (PBM) and paint booth prime coat (PBPC) shall be controlled by dry particulate filters and the

Permittee shall operate the control device in accordance with manufacturer's specifications.

- (b) If overspray is visibly detected at the exhaust or accumulates on the ground, the source shall inspect the dry particulate filters and do either of the following no later than four (4) hours after such observation:
 - (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
 - (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (c) If overspray is visibly detected, the source shall maintain a record of the action taken as a result of the inspection, any repairs of the of the control device, or change in the operations, so that the overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the paint booths (PBM and PBPC) and any control devices. Section B – Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

Error! Bookmark not defined.

D.1.4 Particulate Matter (PM)

In order to comply with Condition D.1.2, the dry particulate filters shall be in operation at all times the surface coating facilities are in operation,

D.1.5 Volatile Organic Compounds (VOC)[326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content limit contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.6 Volatile Organic Compounds [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = \frac{\sum C \times U}{\sum U}$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied;
C is the VOC content of the coating in pounds VOC per gallon less water as applied; and
U is the usage rate of the coating in gallons per day.

IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

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

D.1.7 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1 and D.1.6, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC limits and requirements established in Conditions D.1.1 and D.1.6.
 - (1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) of "as applied" coatings as necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted average VOC content of the coating used for each day.
 - (4) The daily cleanup solvent usage; and
 - (5) The total VOC usage for each day.
- (b) To document the compliance status with Condition D.1.2, the Permittee shall maintain a record of any actions taken if overspray is visibly detected.
- (c) Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (m) One (1) cold cleaner degreaser for drive assemblies, identified as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, with a capacity of 4.91 gal/day of mineral spirits.
- (n) One (1) cold cleaner degreaser for hose assemblies, identified as HACD1, constructed before July 1, 1990, but after January 1, 1980, located in Building 5, with a capacity of 1.68 gal/day of a mixture of Simple Green and water.

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

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

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), the Permittee shall adhere to the following requirements for the operation of the two (2) cold cleaner degreasers, identified as PWCD1 and HACD1:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) provide a permanent, conspicuous label summarizing the operating requirements;
- (f) store waste solvent only in containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (p) One (1) plasma cutter located in Building 5, which cuts steel of different thicknesses ranging from 3/16th of inch to 2 inches. The cutting speeds for the plasma are: 2" - 30" in/min, 1 1/2" - 48" in/min, 1 1/4" - 60" in/min, 1" - 65" in/min, 1/2" -80" in/min, 1/4 & 3/8" - 110" in/min, and 3/16" - 110 in/min.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)] Error! Bookmark not defined.

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

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the plasma cutter shall not exceed the allowable particulate emission rate based on the following equation:

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

$$E = 55.0P^{0.11} - 40$$

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

The particulate emissions for the one (1) plasma cutter shall not exceed 53.85 pounds per hour when operating at a process weight rate of 128.8 tons per hour.

SECTION D.4

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (k) One (1) propane-fired immersion tube heater, identified as WTS1B, exhausted through stack 4S1A in Building 4, with a heat input capacity of 1.50 MMBtu/hr.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)][Error! Bookmark not defined.](#)

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

Pursuant to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), the particulate emission rate from the propane-fired immersion tube heater shall not exceed 0.6 pounds per million Btu (lb/MMBtu) (326 IAC 6-2-4).

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

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

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

Company Name:	Terra Drive Systems, Inc.
Address:	9098 W 800 S
City:	Brookston, Indiana 47923
Phone #:	(219) 279-3537
MSOP #:	M181-31817-00031

I hereby certify that Terra Drive Systems, Inc. is :

still in operation.

I hereby certify that Terra Drive Systems, Inc. is :

no longer in operation.

in compliance with the requirements of MSOP M181-31817-00031.

not in compliance with the requirements of MSOP M181-31817-00031.

Authorized Individual (typed):
Title:
Signature:
Date:

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

Noncompliance:

MALFUNCTION REPORT
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FAX NUMBER: (317) 233-6865

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

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

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

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

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

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

DATE/TIME MALFUNCTION STARTED: ____/____/20____ _____ AM / PM
ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

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

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

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

Addendum to the Technical Support Document (ATSD) for a
Minor Source Operating Permit (MSOP) Renewal

Source Background and Description

Source Name:	Terra Drive Systems, Inc.
Source Location:	9098 W 800 S, Brookston, Indiana 47923
County:	White
SIC Code:	3499 (Fabricated Metal Products, Not Elsewhere Classified), 7692 (Welding Repair), 3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified)
Operation Permit No.:	M181-31817-00031
Permit Reviewer:	Brian Wright

On September 22, 2012, the Office of Air Quality (OAQ) had a notice published in the Herald Journal, Monticello, Indiana, stating that Terra Drive Systems, Inc. had applied for a MSOP Renewal to operate a stationary metal hydraulic axle assembly and painting plant. The notice also stated that the OAQ proposed to issue a MSOP Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On October 2, 2012, Terra Drive Systems, Inc. submitted comments to IDEM, OAQ on the draft MSOP Renewal.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The company had previously requested that a cold cleaner degreaser be removed from the draft permit because they intended to discontinue the production line serviced by the unit. They have since revised their plans and intend to continue use of the degreaser.

Just when I think we have this correct a change has occurred. In my last e-mail I said we were losing some business and would be removing cold cleaner degreaser PWCD1 with exhaust stack 5STA in Building 5 called out on page 3 of 11. I have attached an e-mail from the customer stating that their new program will be delayed for a year and that we will be producing the current product until October 2013. With that being said we will need to retain the above cold cleaner degreaser. We are willing to do what is necessary to have the air permit correct as possible. Please let me know if I should take this copy to the library or wait for a revised copy.

Thanks for your help on this permit.

John McKinnis
Terra Drive Systems

Response to Comment 1:

IDEM agrees with the recommended changes, since the change in potential to emit will remain below Part 70 thresholds. The permit has been revised as requested above:

A.2 Emission Units and Pollution Control Equipment Summary

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

* * * * *

- (m)** One (1) cold cleaner degreaser for drive assemblies, identified as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, with a capacity of 4.91 gal/day of mineral spirits.
- (n~~m~~)** One (1) cold cleaner degreaser for hose assemblies, identified as HACD1, constructed before July 1, 1990, but after January 1, 1980, located in Building 5, with a capacity of 1.68 gal/day of a mixture of Simple Green and water.
- (o~~a~~)** Seventeen (17) MIG welding stations, each with a capacity of 5 lbs/hr of welding wire. Units MIG8 and MIG10 are located in Building 2. Unit MIG36 is located in Building 3. Units MIG6, MIG7, MIG12, MIG13, MIG15, MIG18, MIG19, MIG20, MIG25, MIG27, MIG35, MIG37, MIG38, and MIG39 are located in Building 5.
- (p~~e~~)** One (1) stick welding station, identified as SW1 located in Building 2, with a capacity of 0.53 lbs/hr of welding rod.
- (q~~f~~)** One (1) plasma cutter located in Building 5, which cuts steel of different thicknesses ranging from 3/16th of inch to 2 inches. The cutting speeds for the plasma are: 2" - 30" in/min, 1 1/2" - 48" in/min, 1 1/4" - 60" in/min, 1" - 65" in/min, 1/2" -80" in/min, 1/4 & 3/8" - 110" in/min, and 3/16" - 110 in/min.
- (r~~e~~)** One (1) propane-fired paint booth main curing oven, identified as PBMCO, exhausted through stack 4S8A in Building 4, with a heat input capacity of 1.5 MMBtu/hr.
- (s~~f~~)** One (1) paint booth for prime coat, identified as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (t~~s~~)** One (1) propane-fired radiant space heater, identified as 2S4A, exhausted through stack 2S4A in Building 4; heat input capacity of 25,000 Btu/hr.
- (u~~t~~)** One (1) propane-fired make up air unit for the primer booth, identified as 4V3A, exhausted through vent 4V3A; heat input capacity of 2 MMBtu/hr.
- (v~~u~~)** Three (3) modine propane-fired space heaters, installed in 2012, identified as 3S1A, 3S2A, and 3S3A, exhausting through stacks 3S1A, 3S2A, and 3S3A in Building 3, with a maximum heat input capacity of 0.48 MMBtu/hr.
- (w~~v~~)** Two (2) modine propane-fired space heaters, installed in 2012, identified as 5S9A and 5S10A, exhausting through stacks 5S9A and 5S10A in Building 5, with a maximum heat input capacity of 0.48 MMBtu/hr.

* * * * *

Emissions Unit Description:

- (a) One (1) paint booth main, identified as PBM, formerly identified as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (sf) One (1) paint booth for prime coat, identified as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.

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

* * * * *

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (m) **One (1) cold cleaner degreaser for drive assemblies, identified as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, with a capacity of 4.91 gal/day of mineral spirits.**
- (nm) One (1) cold cleaner degreaser for hose assemblies, identified as HACD1, constructed before July 1, 1990, but after January 1, 1980, located in Building 5, with a capacity of 1.68 gal/day of a mixture of Simple Green and water.

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

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

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), the Permittee shall adhere to the following requirements for the operation of the **two (2) ~~one (1)~~ cold cleaner degreasers**, identified as **PWCD1 and HACD1**:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) provide a permanent, conspicuous label summarizing the operating requirements;
- (f) store waste solvent only in containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

IDEM Contact

- (a) Questions regarding this proposed MSOP Renewal can be directed to Brian Wright at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCM 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-6544 or toll free at 1-800-451-6027 extension 4-6544.
- (b) A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Emission Summary

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

Uncontrolled Emissions

Emission Units	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHGs as CO _{2e}	Total HAPs	Worst Case Sinle HAP	
Surface Coating	15.81	15.81	15.81	0.00	0.00	11.23	0.00	0	1.49	1.49	Ethylene Glycol
Welding	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0	0.14	0.13	Manganese
Ovens LPG	0.03	0.10	0.10	0.02	1.93	0.15	1.11	1,897	0.00	0.00	--
Space Heaters LPG	0.10	0.36	0.36	0.08	6.61	0.51	3.81	6,499	0.00	0.00	--
Make-Up Air Unit LPG	0.02	0.07	0.07	0.01	1.24	0.10	0.72	1,224	0.00	0.00	--
Tube Heater LPG	0.01	0.05	0.05	0.01	0.93	0.07	0.54	918	0.00	0.00	--
Evaporator LPG	negl.	0.01	0.01	negl.	0.25	0.25	0.14	242	0.00	0.00	--
Degreasing Operation	0.00	0.00	0.00	0.00	0.00	6.67	0.00	0	0.00	0.00	--
Total	18.08	18.51	18.51	0.12	10.96	18.97	6.32	10,779	1.63	1.49	Ethylene Glycol

negl. = negligible

Appendix A: Emissions Calculations
 VOC and Particulate
 From Surface Coating Operations

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Unit/Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Maximum (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	
PBPC																		
MV447 9303 Plascon Gray Primer	11.46	46.11%	32.45%	13.66%	44.64%	33.44%	0.12	3.00	8.35	2.83	1.57	0.54	13.07	2.39	4.71	4.68	50%	
PBM																		
MV411-90 Plascon Semi-gloss Black	9.01	60.46%	46.39%	14.07%	50.18%	33.30%	0.102	3.00	7.34	2.54	1.27	0.39	9.31	1.70	2.39	3.81	50%	
MV487 9243 Plascon Gloss Umbra Gray	8.59	69.76%	55.75%	14.01%	57.49%	25.95%	0.351	3.00	25.27	2.83	1.20	1.27	30.41	5.55	5.99	4.64	50%	
MV487 9290 Plascon Gloss Dark Gray	8.53	69.44%	54.77%	14.67%	56.09%	26.67%	0.158	3.00	11.38	2.85	1.25	0.59	14.24	2.60	2.71	4.69	50%	
MV478 7016 John Deere Green Plascon	8.62	65.88%	50.40%	15.48%	52.15%	30.58%	0.456	3.00	32.83	2.79	1.33	1.83	43.81	8.00	8.81	4.36	50%	
MV487 6170 Case MS-3 Red Plascon	8.71	68.46%	54.37%	14.09%	56.85%	26.43%	0.424	3.00	30.53	2.84	1.23	1.56	37.47	6.84	7.65	4.64	50%	
MV487 4682 Agricultural Yellow Plascon Gloss	8.71	65.43%	49.85%	15.58%	52.12%	29.59%	0.000	3.00	0.00	2.83	1.36	0.00	0.00	0.00	0.00	4.59	50%	
MV487 4683 NH Bright Yellow Plascon Gloss*	9.14	63.01%	48.28%	14.73%	52.97%	30.29%	0.500	3.00	36.00	2.86	1.35	2.02	48.47	8.85	11.11	4.44	50%	
MV487 9123 Gloss CS-26 Gray	8.58	71.30%	56.94%	14.36%	58.65%	24.49%	0.406	3.00	29.23	2.98	1.23	1.50	36.02	6.57	6.57	5.03	50%	
MV488 MV192 Gloss Case Silver	8.63	67.32%	53.23%	14.09%	55.15%	27.96%	0.180	3.00	12.96	2.71	1.22	0.66	15.76	2.88	3.34	4.35	50%	
PTE of Worst Case Coating (PBM)*												2.02	48.47	8.85	11.11			
Total PTE (PBPC and PBM)												2.56	61.54	11.23	15.81			

METHODOLOGY

*PTE assumes worst case scenario when multiple paints are used, which in this case is 100% use of MV487 4683
 Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
 Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations
HAPs
From Surface Coating Operations

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

Unit/Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum # Units per Hour (unit/hr)	Maximum Gallons Material Per Hour (gal/hour)	Organic HAPs (lbs/gal)	Pounds HAPs per Hour (lbs/hr)	Tons HAPs per Hour	Tons HAPs per Year	Single Highest HAP (tons/year)	Single Highest HAP Description (name)
PBPC										
MV447 9303 Plascon Gray Primer	11.46	0.116	3.000	0.348	0.000	0.000	0.00	0.000	0.000	Ethylene Glycol
PBM										
MV411-90 Plascon Semi-gloss Black	9.01	0.102	3.000	0.306	0.159	0.049	2.43E-05	0.21	0.21	Ethylene Glycol
MV487 9243 Plascon Gloss Umbra Gray	8.59	0.351	3.000	1.053	0.161	0.170	8.48E-05	0.74	0.74	Ethylene Glycol
MV487 9290 Plascon Gloss Dark Gray	8.53	0.158	3.000	0.474	0.161	0.076	3.82E-05	0.33	0.33	Ethylene Glycol
MV478 7016 John Deere Green Plascon	8.62	0.456	3.000	1.368	0.230	0.315	1.57E-04	1.38	1.38	Ethylene Glycol
MV487 6170 Case MS-3 Red Plascon	8.71	0.424	3.000	1.272	0.161	0.205	1.02E-04	0.90	0.90	Ethylene Glycol
MV487 4682 Agricultural Yellow Plascon Gloss	8.71	0.000	3.000	0.000	0.187	0.000	0.00	0.00	0.00	Ethylene Glycol
MV487 4683 NH Bright Yellow Plascon Gloss*	9.14	0.500	3.000	1.500	0.227	0.341	1.70E-04	1.49	1.49	Ethylene Glycol
MV487 9123 Gloss CS-26 Gray	8.58	0.406	3.000	1.218	0.180	0.219	1.10E-04	0.96	0.96	Ethylene Glycol
MV488 MV192 Gloss Case Silver	8.63	0.180	3.000	0.540	0.000	0.000	0.00	0.00	0.00	Ethylene Glycol
PTE of Worst Case Coating (PBM)*								1.49	1.49	
Total PTE (PBPC and PBM)								1.49	1.49	Ethylene Glycol

METHODOLOGY

*PTE assumes worst case scenario when multiple paints are used, which in this case is 100% use of MV487 4683

Maximum Gallons of Material per Hour = (Gallon of Material per Unit) x (Maximum Number Units per Hour) x Pounds of Organic Haps per Gallon of Material

Pounds HAPs per Hour = Maximum Gallons of Material per Hour x Pounds of Organic Haps per Gallon of Material

Tons HAPs per Hour = (Pounds HAPs per Hour) x (1 Ton/2000 Pounds)

Tons HAPs per Year = (Tons HAPs per Hour) x (8760 Hours/1 Year)

Appendix A: Emissions Calculations
Welding and Thermal Cutting

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	EMISSION FACTORS (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					Total HAPS (lbs/hr)	
				PM/PM10/PM2.5	Mn	Ni	Co	Cr	PM/PM10/PM2.5	Mn	Ni	Co	Cr		
WELDING															
Metal Inert Gas (MIG) (ER70S-3 or ER90S-D2 electrode)*	17	5.00	120		0.0052	0.000318	0.000001	0.000001	0.000001	0.442	0.027	8.5E-05	8.5E-05	8.5E-05	0.027
Stick (E6011 electrode)	1	0.53	12.7		0.0384	0.000998	0.000005	0.000001	0.000005	0.020	0.001	2.7E-06	5.3E-07	2.7E-06	0.001
FLAME CUTTING															
	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	Max. Metal Cutting Rate (in./hour)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
					PM/PM10/PM2.5	Mn	Ni	Co	Cr	PM/PM10/PM2.5	Mn	Ni	Co	Cr	
Plasma**	1	1.25	60	3600	0.0039	0.0005	0.0001	0	0.0003	0.018	2.3E-03	4.5E-04	0.0E+00	1.4E-03	4.1E-03
EMISSION TOTALS															
Potential Emissions lbs/hr										0.48	0.03	5.4E-04	8.6E-05	1.4E-03	0.03
Potential Emissions lbs/day										11.52	0.72	1.3E-02	2.1E-03	3.5E-02	0.76
Potential Emissions tons/year										2.10	0.13	2.4E-03	3.7E-04	6.3E-03	0.14

METHODOLOGY

Welding emission factors from AP-42 Tables 12.19-1 and 12.19-2.

* Facility uses both types of welding wire. Emissions factors for ER70S-3 used in calculations.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted).

Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

***Multiple thicknesses of steel are cut by the source. For the purpose of calculating PTE, the worst case scenario for emissions of 1.25" thickness was used.

plasma cutting is for 8 mm thick rather than 1 inch and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emission Calculations
 LPG-Propane - Ovens
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity
 MMBtu/hr
 3.10

Potential Throughput
 kgals/year
 296.79

SO2 Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Ovens	Rating in MMBtu/hr
PBMCO	1.5
PBPCCO	0.8
DO1	0.8
Total	3.1

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2 (0.10S)	NOx 13.00	VOC 1.00 **TOC value	CO 7.50
Potential Emission in tons/yr	0.03	0.10	0.10	0.02	1.93	0.15	1.11

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 gal per 1000 gallon * 1 gal per 0.095 MMBtu.

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2 12,500	CH4 0.2	N2O 0.9
Potential Emission in tons/yr	1,855	0.03	0.13
Summed Potential Emissions in tons/yr	1,855		
CO2e Total in tons/yr	1,897		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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 * N2O GWP (310)

Appendix A: Emission Calculations
 LPG-Propane - Space Heaters
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Space Heaters	Rating in MMBtu/hr
REZ 1 and 2	0.8
MSH1 and MSH2	0.26
CRVT2 #1 - #7	2.94
CRVT3 #1 - #8	3.84
3S1A, 3S2A, 3S3A, 5S9A, and 5S10A	2.4
SH1	0.13
2S4A	0.25
Total	10.62

Heat Input Capacity MMBtu/hr: **10.62**
 Potential Throughput kgals/year: **1016.73**
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = **1.50** grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.10	0.36	0.36	0.08	6.61	0.51	3.81

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

***The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	6,355	0.10	0.46
Summed Potential Emissions in tons/yr	6,355		
CO2e Total in tons/yr	6,499		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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
 LPG-Propane - Make-Up Air Unit
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: 2.00
 Potential Throughput kgals/year: 191.48
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	1.24	0.10	0.72

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal per 1000 gallon x 1 gal per 0.0915 MMBt

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	1,197	0.02	0.09
Summed Potential Emissions in tons/yr	1,197		
CO2e Total in tons/yr	1,224		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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 Emissions ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
 LPG-Propane - Tube Heater
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: 1.50
 Potential Throughput kgals/year: 143.61
 SO₂ Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO ₂	NO _x	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.01	0.05	0.05	0.01	0.93	0.07	0.54

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore, PM10 is based on the filterable and condensable PM emission factors.
 ** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.
 **The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu
 1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)
 Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu
 Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
 Propane Emission Factors shown. Please see AP-42 for butane.
 Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Emission Factor in lb/kgal	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
	12,500	0.2	0.9
Potential Emission in tons/yr	898	0.01	0.06
Summed Potential Emissions in tons/yr	898		
CO ₂ e Total in tons/yr	918		

Methodology

The CO₂ Emission Factor for Propane is 12500. The CO₂ Emission Factor for Butane is 14300.
 Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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).
 ton/yr x CH₄ GWP (21) + N₂O Potential Emission ton/yr x N₂O GWP (310).

Appendix A: Emission Calculations
 LPG-Propane - Evaporator
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: **0.40**
 Potential Throughput kgals/year: **37.82**
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = **1.50** grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	3.78E-03	1.32E-02	1.32E-02	2.84E-03	0.25	0.25	0.14

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1 therefore PM10 is based on the filterable and condensable PM emission factors

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu.

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBt

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02).

Propane Emission Factors shown. Please see AP-42 for butane.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	236	0.004	0.017
Summed Potential Emissions in tons/yr	236		
CO2e Total in tons/yr	242		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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
 VOC Emission Calculations
 Degreasing Operations

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Degreasing Operations	Solvent Used	Maximum Usage (lbs/year)	Weight % VOC	VOC Emissions (ton/yr)
Parts Wash Cold Degreaser (PWCD1)	Mineral Spirits	13323.00	100.00%	6.66
Hose Assembly Cold Degreaser (HACD1)	Simple Green	4000.00	0.50%	0.01

Total Potential Emissions

6.67

METHODOLOGY

VOC emission rate (tpy) = Material Usage (lbs/hr) * Weight % VOC * 8760 hrs/yr * 1 ton/2000 lbs

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Minor Source Operating Permit Renewal

Source Background and Description

Source Name:	Terra Drive Systems, Inc.
Source Location:	9098 W 800 S, Brookston, IN 47923
County:	White
SIC Code:	3499 (Fabricated Metal Products, Not Elsewhere Classified), 7692 (Welding Repair), 3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified)
Permit Renewal No.:	M181-31817-00031
Permit Reviewer:	Brian Wright

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Terra Drive Systems, Inc. relating to the continued operation of a stationary metal hydraulic axle assembly and painting plant. On May 2, 2012, Terra Drive Systems, Inc. submitted an application to the OAQ requesting to renew its operating permit. Terra Drive Systems, Inc. was issued its first MSOP Renewal (M181-24759-00031) on September 12, 2007. The source chose to continue to be permitted under a MSOP even though emissions levels allow for the issuance of a Registration.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) One (1) paint booth main, identified as PBM, formerly identified as main paint booth (MB), equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 4S3A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (b) One (1) propane-fired paint booth prime coat curing oven, identified as PBPCCO, formerly identified as main booth curing oven (MBCO), exhausted through stack 4S4A in Building 4, with a heat input capacity of 0.8 MMBtu/hr.
- (c) One (1) propane-fired evaporator, identified as EVAP1, exhausted through stack 4S6A in Building 4, with a heat input capacity of 0.395 MMBtu/hr.
- (d) One (1) propane-fired space heater, identified as SH1, exhausted through stack 2S3A in Building 2, with a heat input capacity of 0.130 MMBtu/hr.
- (e) One (1) propane-fired dry off oven, identified as DO1, exhausted through stack 4S2A in Building 4, with a heat input capacity of 0.8 MMBtu/hr.
- (f) Seven (7) propane-fired space heaters, identified as CRVT2:#1 - #7, exhausted through stack 5S2A in Building 5, with a heat input capacity of 0.42 MMBtu/hr each.
- (g) Eight (8) propane-fired space heaters, identified as CRVT3:#1 - #8, exhausted through stack 5S3A in Building 5, with a heat input capacity of 0.48 MMBtu/hr each.
- (h) Two (2) propane-fired space heaters, identified as MSH1 and MSH2, exhausted through stacks 2S1A and 2S2A in Building 2, with a heat input capacity of 0.13 MMBtu each.

- (i) One (1) propane-fired space heater, identified as REZ1, exhausted through stack 4S5A in Building 4, with a heat input capacity of 0.40 MMBtu/hr.
- (j) One (1) propane-fired space heater, identified as REZ2, exhausted through stack 5S8A in Building 5, with a heat input capacity of 0.40 MMBtu/hr.
- (k) One (1) propane-fired immersion tube heater, identified as WTS1B, exhausted through stack 4S1A in Building 4, with a heat input capacity of 1.50 MMBtu/hr.
- (l) One (1) wash tank washer entrance and exit, identified as WTEN and WTEX, exhausted through stacks 4S1B and 4S1C, respectively, in Building 4, with a capacity of 8.68 lbs/hr of washing solution, total.
- (m) One (1) cold cleaner degreaser for hose assemblies, identified as HACD1, constructed before July 1, 1990, but after January 1, 1980, located in Building 5, with a capacity of 1.68 gal/day of a mixture of Simple Green and water.
- (n) Seventeen (17) MIG welding stations, each with a capacity of 5 lbs/hr of welding wire. Units MIG8 and MIG10 are located in Building 2. Unit MIG36 is located in Building 3. Units MIG6, MIG7, MIG12, MIG13, MIG15, MIG18, MIG19, MIG20, MIG25, MIG27, MIG35, MIG37, MIG38, and MIG39 are located in Building 5.
- (o) One (1) stick welding station, identified as SW1 located in Building 2, with a capacity of 0.53 lbs/hr of welding rod.
- (p) One (1) plasma cutter located in Building 5, which cuts steel of different thicknesses ranging from 3/16th of inch to 2 inches. The cutting speeds for the plasma are: 2" - 30" in/min, 1 1/2" - 48" in/min, 1 1/4" - 60" in/min, 1" - 65" in/min, 1/2" -80" in/min, 1/4 & 3/8" - 110" in/min, and 3/16" - 110 in/min.
- (q) One (1) propane-fired paint booth main curing oven, identified as PBMCO, exhausted through stack 4S8A in Building 4, with a heat input capacity of 1.5 MMBtu/hr.
- (r) One (1) paint booth for prime coat, identified as PBPC, equipped with air assisted airless spray guns and dry panel filters particulate matter control, exhausted through stack 4S7A in Building 4, with a capacity of three (3) metal hydraulic axle assemblies per hour.
- (s) One (1) propane-fired radiant space heater, identified as 2S4A, exhausted through stack 2S4A in Building 4; heat input capacity of 25,000 Btu/hr.
- (t) One (1) propane-fired make up air unit for the primer booth, identified as 4V3A, exhausted through vent 4V3A; heat input capacity of 2 MMBtu/hr.
- (u) Three (3) modine propane-fired space heaters, installed in 2012, identified as 3S1A, 3S2A, and 3S3A, exhausting through stacks 3S1A, 3S2A, and 3S3A in Building 3, with a maximum heat input capacity of 0.48 MMBtu/hr.
- (v) Two (2) modine propane-fired space heaters, installed in 2012, identified as 5S9A and 5S10A, exhausting through stacks 5S9A and 5S10A in Building 5, with a maximum heat input capacity of 0.48 MMBtu/hr.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit
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The source also consists of the following emission units that were constructed and/or are operating without a permit:

- (a) One (1) plasma cutter located in Building 5, which cuts steel of different thicknesses ranging from 3/16th of inch to 2 inches. The cutting speeds for the plasma are: 2" - 30" in/min, 1 1/2" - 48" in/min, 1 1/4" - 60" in/min, 1" - 65" in/min, 1/2" -80" in/min, 1/4 & 3/8" - 110" in/min, and 3/16" - 110 in/min.
- (b) Six (6) MIG welding stations, each with a capacity of 5 lbs/hr of welding wire, identified as Units MIG36 (located in Building 3), MIG27, MIG35, MIG37, MIG38, and MIG39 (located in Building 5).
- (c) Three (3) modine propane-fired space heaters, installed in 2012, identified as 3S1A, 3S2A, and 3S3A, exhausting through stacks 3S1A, 3S2A, and 3S3A in Building 3, with a maximum heat input capacity of 0.48 MMBtu/hr.
- (d) Two (2) modine propane-fired space heaters, installed in 2012, identified as 5S9A and 5S10A, exhausting through stacks 5S9A and 5S10A in Building 5, with a maximum heat input capacity of 0.48 MMBtu/hr.

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

- (a) One (1) auxiliary paint booth, identified as AUX1, equipped with air assisted airless spray guns and dry panel filters for particulate matter control, exhausted through stack 5S1A in Building 5, with a capacity of four (4) metal hydraulic axle assemblies per hour.
- (b) Eight (8) propane-fired space heaters, identified as CRVT4:#1 - #8, exhausting to stack 5S4A in Building 5, with a heat input capacity of 0.48 MMBtu/hr each.
- (c) One (1) propane-fired space heater, identified as REZ3, exhausted through stack 5S5A in Building 5, with a heat input capacity of 0.40 MMBtu/hr.
- (d) Fourteen (14) MIG welding stations, identified as MIG1, MIG2, MIG3, MIG4, MIG5, MIG9, MIG11, MIG14, MIG16, MIG23, MIG24, MIG26, MIG29, MIG30, located in Building 2 and Building 5, with a capacity of 5 lbs/hr of welding wire.
- (e) Four (4) MIG welding stations, identified as MIG31 - MIG34, located in Building 5, with a capacity of 3.5 lbs/hr of welding wire; and
- (f) One (1) oxyacetylene flame cutting table, identified as FC1, located in Building 5, with a rate of thirty-six (36) inches per minute at a three (3) inch thickness.
- (g) One (1) laser cutting station, identified as LC1, located in Building 5, with a rate of one hundred (100) inches per minute at a five tenths (0.5) inch thickness.
- (h) One (1) cold cleaner degreaser for drive assemblies, identified as PWCD1, constructed after July 1, 1990, exhausted through stack 5S7A in Building 5, with a capacity of 4.91 gal/day of mineral spirits.

Existing Approvals

Since the issuance of the MSOP (181-24759-00031) on September 12, 2007, the source has constructed or has been operating under the following additional approvals:

- (a) First Notice-Only Change No. 181-31688-00031, issued on May 1, 2012.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in White 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 (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. White County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM_{2.5}**
White 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} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
White 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.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	18.08
PM10	18.51
PM2.5	18.51
SO2	0.12
NOx	10.96
VOC	12.31
CO	6.32
GHGs as CO2e	10,779
Total HAP	1.63
Worst Single HAP	1.49 (Ethylene Glycol)

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all regulated pollutants, excluding GHGs, is less than 100 tons per year. The source is not subject to the provisions of 326 IAC 2-7. The source has chosen to remain regulated pursuant to 326 IAC 6.1 (Minor Source Operating Permit Program), rather than by 326 IAC 5.5 (Registrations), to allow for potential future growth. Therefore, the source will be issued an MSOP Renewal.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source will be issued an MSOP Renewal.

Federal Rule Applicability

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

New Source Performance Standards

- (b) The requirements of the New Source Performance Standard for Surface Coating of Metal Furniture, 40 CFR 60, Subpart EE (60.310 through 60.316) (326 IAC 12), are not included in the permit, since the painting operation at this source does not perform surface coating of metal furniture. This source performs surface coating of axles.
- (c) The requirements of the New Source Performance Standard for Automobile and Light Truck Surface Coating Operations, 40 CFR Part 60, Subpart MM (326 IAC 12), are not included in the permit, because the axles manufactured by the source do not meet the definition of automobile and light truck under 40 CFR 60.391.
- (d) The requirements of the New Source Performance Standard (NSPS) for Industrial Surface Coating: Large Appliances, 40 CFR 60, Subpart SS (60.450 through 60.456) (326 IAC 12), are not included in the permit, since the painting operation at this source does not perform surface coating of large appliance products or parts (as defined by 40 CFR 60.451). This source performs surface coating of axles.
- (e) The requirements of the New Source Performance Standard (NSPS) for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines, 40 CFR 60, Subpart TTT (60.720 through 60.726) (326 IAC 12), are not included in the permit, since the painting operation at this source does not perform surface coating of plastic parts for business machines (as defined by 40 CFR 60.721). This source performs surface coating of metal axles.
- (f) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.

National Emission Standards for Hazardous Air Pollutants

- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning 40 CFR 63, Subpart T (63.460 through 63.470) (326 IAC 20-6), are not included in the permit, because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).
- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Automobiles and Light-Duty Trucks, 40 CFR Part 63, Subpart IIII (326 IAC 20-85), are not included in the permit, because the subpart does not cover automobile parts..
- (i) The requirements of National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR Part 63, Subpart MMMM (326 IAC 20-80) are not included in the permit, because this source is not a major source of HAPs.
- (j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Plastic Parts and Products, 40 CFR 63, Subpart PPPP (63.4480 through 63.4581) (326 IAC 20-81), are not included in the permit for the painting operation, because this source is not a major source of HAPs and does not perform surface coating of plastic parts or plastic products. This source performs surface coating of metal axles.
- (k) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (63.7480 through 63.7575) (326 IAC 20-95), are not included

in this permit, because this source is not a major source of HAPs as defined in 40 CFR 63.2.

- (l) The requirements of 40 CFR Part 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources), are not included in this permit because this source does not perform paint stripping using chemical strippers that contain methylene chloride in the removal of dried paint, does not perform spray application of coatings to motor vehicles or mobile equipment, and does not perform spray application of coating that contains chromium, lead, manganese, nickel, or cadmium to a plastic and/or metal substrates. Although the surface coating of metal axles meets the definition (under 40 CFR 63.11180) of a "miscellaneous surface coating operation", where surface coatings are applied to "miscellaneous parts and/or products" made of metal, the coatings used do contain any of the target HAPs as defined under 40 CFR 63.11180.
- (m) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (63. 11193 through 63.11237), are not included in the permit, because the source does not contain boilers (as defined by 40 CFR 63.11237).
- (n) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

State Rule Applicability - Entire Source

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

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

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting) because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70); it is not located in Lake, Porter, or LaPorte County, and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

326 IAC 5-1 (Opacity Limitations)

This source is subject to the opacity limitations specified in 326 IAC 5-1-2

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

The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

326 IAC 6.5 PM Limitations Except Lake County

This source is not subject to 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 PM Limitations for Lake County

This source is not subject to 326 IAC 6.8 because it is not located in Lake County.

326 IAC 12 (New Source Performance Standards)

See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)

See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Surface Coating

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

- (a) Pursuant to 326 IAC 6-3-1(b)(15), the surface coating processes, identified as paint booth main (PBM) and paint booth prime coat (PBPC), are each subject to the requirements of 326 IAC 6-3, since they each have the potential to use equal to or greater than five (5) gallons per day of surface coatings. Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), particulate from the surface coating processes, identified as paint booth main (PBM) and paint booth prime coat (PBPC), shall be controlled by dry particulate filters and the Permittee shall operate the control device in accordance with manufacturer's specifications.

The dry particulate filters shall be in operation at all times the paint booths are in operation, in order to comply with this rule.

If overspray is visibly detected at the exhaust or accumulates on the ground, the source shall inspect the dry particulate filters and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the source shall maintain a record of the action taken as a result of the inspection, any repairs of the of the control device, or change in the operations, so that the overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

The paint booth prime coat (PBPC) is not subject to 326 IAC 8-2-9 because the potential to emit of VOC is less than fifteen (15) pounds per day.

The paint booth main (PBM) is subject to 326 IAC 8-2-9 because the paint booth was constructed after July 1990, the potential to emit of VOC is greater than fifteen (15) pounds per day and the surface coating of metal hydraulic drive axle assemblies takes place at this booth.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of the coating delivered to the applicator at the paint booth main (PBM) shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried and forced warm air dried coatings.

The paint booth main (PBM) has applicable compliance determination conditions as specified below:

- (a) Compliance with the VOC content limit shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = \frac{\sum(C \times U)}{\sum U}$$

Where: A is the volume weighted average in pounds VOC per gallon less water as applied;
C is the VOC content of the coating in pounds VOC per gallon less water as applied; and
U is the usage rate of the coating in gallons per day.

Persuant to 326 IAC 8-2-9(f), the following work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials:

- (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
- (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
- (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
- (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
- (5) Minimize VOC emissions from the cleaning of application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

Based on the information submitted by the source and calculations made, the paint booth is able to comply with this requirement.

Welding

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

- (a) Pursuant to 326 IAC 6-3-1(b)(9), the seventeen (17) MIG welding stations, identified as MIG8, MIG10, MIG36, MIG6, MIG7, MIG12, MIG13, MIG15, MIG18, MIG19, MIG20, MIG25, MIG27, MIG35, MIG37, MIG38, and MIG39, are each exempt from the requirements of 326 IAC 6-3, because they each have the potential to use less than 625 pounds of rod or wire per day.
- (b) Pursuant to 326 IAC 6-3-1(b)(9), the one (1) stick welder, identified as SW1, is exempt from the requirements of 326 IAC 6-3, because it has the potential to use less than 625 pounds of rod or wire per day.
- (c) Pursuant to 326 IAC 6-3-1(b)(10), the one (1) plasma cutter is subject to the requirements of 326 IAC 6-3, since it potentially involves the cutting of metal with a thickness of greater than one (1) inch. Pursuant to 326 IAC 6-3-2, particulate emissions for the one (1) plasma cutter shall not exceed 53.85 pounds per hour when operating at a process weight rate of 128.8 tons per hour. This limit is based on the following equation:

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

$$E = 55.0P^{0.11} - 40$$

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

The potential to emit of the plasma cutter is 0.89 pounds of PM per hour. Therefore, the plasma cutter is able to comply with this limit without the use of a control device.

Degreasing Operations

326 IAC 8-3-2 (Cold Cleaner Operation)

Pursuant to 326 IAC 8-3-1(a)(2), the cold cleaner degreaser for hose assemblies, identified as HACD1, is subject to the requirements of 326 IAC 8-3-2 since it was constructed after January 1, 1980 but before July 1, 1990 in White County. Pursuant to 326 IAC 8-3-2, the Permittee shall adhere to the following requirements for the operation of the one (1) cold cleaner degreaser, identified as HACD1:

- (a) equip the cleaner with a cover;
- (b) equip the cleaner with a facility for draining cleaned parts;
- (c) close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) provide a permanent, conspicuous label summarizing the operating requirements;
- (f) store waste solvent only in containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

The cold cleaner degreaser for hose assemblies, identified as HACD1, was constructed before July 1, 1990 in White County. Therefore, the requirements of 326 IAC 8-3-5 do not apply.

Propane Heaters

326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)

The twenty-five (25) propane-fired space heaters (SH1, CRVT2:#1-#7, CRVT3:#1-#8, MSH1, MSH2, REZ1, REZ2, 2S4A, 3S1A, 3S2A, 5S9A, and 5S10A), three (3) propane-fired ovens (MBCO, DO1, and PBMCO), one (1) propane-fired evaporator (EVAP1), and one (1) propane-fired make up unit (4V3A) are not subject to 326 IAC 6-2 because they are not sources of indirect heat.

The one (1) propane-fired immersion tube heater (WTS1B) is subject to 326 IAC 6-2-4 because it is a source of direct heat constructed after September 21, 1983. Particulate emissions from the immersion tube heater shall not exceed 0.6 pounds per million Btu (lb/MMBtu), the maximum emission rate under 326 IAC 6-2-4 for any unit with a maximum heat input of less than 10 MMBtu/hr.

Based on the AP-42 uncontrolled propane combustion particulate matter emission factor of 0.2 pounds per thousand gallons of propane (lb/kgal), the propane fired water heater has particulate emissions as follows:

$$(0.2 \text{ pound PM/kgal}) * (\text{kgal}/91.5 \text{ MMBtu}) = 0.0022 \text{ pound PM per MMBtu}$$

Therefore, the propane fired water heater is able to comply with the particulate emission limitation under 326 IAC 6-2-4 without the use of a control device.

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

The twenty-five (25) propane-fired space heaters (SH1, CRVT2:#1-#7, CRVT3:#1-#8, MSH1, MSH2, REZ1, REZ2, 2S4A, 3S1A, 3S2A, 5S9A, and 5S10A), three (3) propane-fired ovens (MBCO, DO1, and PBMCO), one (1) propane-fired evaporator (EVAP1), one (1) propane-fired make up unit (4V3A), and one (1) propane-fired immersion tube heater (WTS1B) are not subject to the requirements of 326 IAC 6-3, since they are not a "manufacturing process" as defined by 326 IAC 6-3-1.5.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

Pursuant to 326 IAC 7-1.1-1, twenty-five (25) propane-fired space heaters (SH1, CRVT2:#1-#7, CRVT3:#1-#8, MSH1, MSH2, REZ1, REZ2, 2S4A, 3S1A, 3S2A, 5S9A, and 5S10A), three (3) propane-fired ovens (MBCO, DO1, and PBMCO), one (1) propane-fired evaporator (EVAP1), one (1) propane-fired make up unit (4V3A), and one (1) propane-fired immersion tube heater (WTS1B) are not subject to the requirements of 326 IAC 7-1, since each has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

The twenty-five (25) propane-fired space heaters (SH1, CRVT2:#1-#7, CRVT3:#1-#8, MSH1, MSH2, REZ1, REZ2, 2S4A, 3S1A, 3S2A, 5S9A, and 5S10A), three (3) propane-fired ovens (MBCO, DO1, and PBMCO), one (1) propane-fired evaporator (EVAP1), one (1) propane-fired make up unit (4V3A), and one (1) propane-fired immersion tube heater (WTS1B) are each not subject to the requirements of 326 IAC 8-1-6, since each has unlimited VOC potential emissions of less than twenty-five (25) tons per year.

Recommendation

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

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

An application for the purposes of this review was received on May 2, 2012. Additional information was received on August 1, 2012 and August 3, 2012.

Conclusion

The operation of this stationary metal hydraulic axle assembly and painting plant shall be subject to the conditions of the attached MSOP Renewal No. M181-31817-00031.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Wright 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) 234-6544 or toll free at 1-800-451-6027 extension 4-6544.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Emission Summary

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

Uncontrolled Emissions

Emission Units	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHGs as CO _{2e}	Total HAPs	Worst Case Sinle HAP	
Surface Coating	15.81	15.81	15.81	0.00	0.00	11.23	0.00	0	1.49	1.49	Ethylene Glycol
Welding	2.10	2.10	2.10	0.00	0.00	0.00	0.00	0	0.14	0.13	Manganese
Ovens LPG	0.03	0.10	0.10	0.02	1.93	0.15	1.11	1,897	0.00	0.00	--
Space Heaters LPG	0.10	0.36	0.36	0.08	6.61	0.51	3.81	6,499	0.00	0.00	--
Make-Up Air Unit LPG	0.02	0.07	0.07	0.01	1.24	0.10	0.72	1,224	0.00	0.00	--
Tube Heater LPG	0.01	0.05	0.05	0.01	0.93	0.07	0.54	918	0.00	0.00	--
Evaporator LPG	negl.	0.01	0.01	negl.	0.25	0.25	0.14	242	0.00	0.00	--
Degreasing Operation	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0	0.00	0.00	--
Total	18.08	18.51	18.51	0.12	10.96	12.31	6.32	10,779	1.63	1.49	Ethylene Glycol

negl. = negligible

Appendix A: Emissions Calculations
 VOC and Particulate
 From Surface Coating Operations

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Unit/Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Maximum (gal/day)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency	
PBPC																		
MV447 9303 Plascon Gray Primer	11.46	46.11%	32.45%	13.66%	44.64%	33.44%	0.12	3.00	8.35	2.83	1.57	0.54	13.07	2.39	4.71	4.68	50%	
PBM																		
MV411-90 Plascon Semi-gloss Black	9.01	60.46%	46.39%	14.07%	50.18%	33.30%	0.102	3.00	7.34	2.54	1.27	0.39	9.31	1.70	2.39	3.81	50%	
MV487 9243 Plascon Gloss Umbra Gray	8.59	69.76%	55.75%	14.01%	57.49%	25.95%	0.351	3.00	25.27	2.83	1.20	1.27	30.41	5.55	5.99	4.64	50%	
MV487 9290 Plascon Gloss Dark Gray	8.53	69.44%	54.77%	14.67%	56.09%	26.67%	0.158	3.00	11.38	2.85	1.25	0.59	14.24	2.60	2.71	4.69	50%	
MV478 7016 John Deere Green Plascon	8.62	65.88%	50.40%	15.48%	52.15%	30.58%	0.456	3.00	32.83	2.79	1.33	1.83	43.81	8.00	8.81	4.36	50%	
MV487 6170 Case MS-3 Red Plascon	8.71	68.46%	54.37%	14.09%	56.85%	26.43%	0.424	3.00	30.53	2.84	1.23	1.56	37.47	6.84	7.65	4.64	50%	
MV487 4682 Agricultural Yellow Plascon Gloss	8.71	65.43%	49.85%	15.58%	52.12%	29.59%	0.000	3.00	0.00	2.83	1.36	0.00	0.00	0.00	0.00	4.59	50%	
MV487 4683 NH Bright Yellow Plascon Gloss*	9.14	63.01%	48.28%	14.73%	52.97%	30.29%	0.500	3.00	36.00	2.86	1.35	2.02	48.47	8.85	11.11	4.44	50%	
MV487 9123 Gloss CS-26 Gray	8.58	71.30%	56.94%	14.36%	58.65%	24.49%	0.406	3.00	29.23	2.98	1.23	1.50	36.02	6.57	6.57	5.03	50%	
MV488 MV192 Gloss Case Silver	8.63	67.32%	53.23%	14.09%	55.15%	27.96%	0.180	3.00	12.96	2.71	1.22	0.66	15.76	2.88	3.34	4.35	50%	
PTE of Worst Case Coating (PBM)*												2.02	48.47	8.85	11.11			
Total PTE (PBPC and PBM)												2.56	61.54	11.23	15.81			

METHODOLOGY

*PTE assumes worst case scenario when multiple paints are used, which in this case is 100% use of MV487 4683
 Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
 Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
 Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
 Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
 Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
 Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (8760 hrs/yr) * (1 ton/2000 lbs)
 Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
 Total = Worst Coating + Sum of all solvents used

Appendix A: Emissions Calculations
HAPs
From Surface Coating Operations

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

Unit/Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum # Units per Hour (unit/hr)	Maximum Gallons Material Per Hour (gal/hour)	Organic HAPs (lbs/gal)	Pounds HAPs per Hour (lbs/hr)	Tons HAPs per Hour	Tons HAPs per Year	Single Highest HAP (tons/year)	Single Highest HAP Description (name)
PBPC										
MV447 9303 Plascon Gray Primer	11.46	0.116	3.000	0.348	0.000	0.000	0.00	0.000	0.000	Ethylene Glycol
PBM										
MV411-90 Plascon Semi-gloss Black	9.01	0.102	3.000	0.306	0.159	0.049	2.43E-05	0.21	0.21	Ethylene Glycol
MV487 9243 Plascon Gloss Umbra Gray	8.59	0.351	3.000	1.053	0.161	0.170	8.48E-05	0.74	0.74	Ethylene Glycol
MV487 9290 Plascon Gloss Dark Gray	8.53	0.158	3.000	0.474	0.161	0.076	3.82E-05	0.33	0.33	Ethylene Glycol
MV478 7016 John Deere Green Plascon	8.62	0.456	3.000	1.368	0.230	0.315	1.57E-04	1.38	1.38	Ethylene Glycol
MV487 6170 Case MS-3 Red Plascon	8.71	0.424	3.000	1.272	0.161	0.205	1.02E-04	0.90	0.90	Ethylene Glycol
MV487 4682 Agricultural Yellow Plascon Gloss	8.71	0.000	3.000	0.000	0.187	0.000	0.00	0.00	0.00	Ethylene Glycol
MV487 4683 NH Bright Yellow Plascon Gloss*	9.14	0.500	3.000	1.500	0.227	0.341	1.70E-04	1.49	1.49	Ethylene Glycol
MV487 9123 Gloss CS-26 Gray	8.58	0.406	3.000	1.218	0.180	0.219	1.10E-04	0.96	0.96	Ethylene Glycol
MV488 MV192 Gloss Case Silver	8.63	0.180	3.000	0.540	0.000	0.000	0.00	0.00	0.00	Ethylene Glycol
PTE of Worst Case Coating (PBM)*								1.49	1.49	
Total PTE (PBPC and PBM)								1.49	1.49	Ethylene Glycol

METHODOLOGY

*PTE assumes worst case scenario when multiple paints are used, which in this case is 100% use of MV487 4683

Maximum Gallons of Material per Hour = (Gallon of Material per Unit) x (Maximum Number Units per Hour) x Pounds of Organic Haps per Gallon of Material

Pounds HAPs per Hour = Maximum Gallons of Material per Hour x Pounds of Organic Haps per Gallon of Material

Tons HAPs per Hour = (Pounds HAPs per Hour) x (1 Ton/2000 Pounds)

Tons HAPs per Year = (Tons HAPs per Hour) x (8760 Hours/1 Year)

Appendix A: Emissions Calculations
Welding and Thermal Cutting

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)		EMISSION FACTORS (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					Total HAPS (lbs/hr)
					PM/PM10/PM2.5	Mn	Ni	Co	Cr	PM/PM10/PM2.5	Mn	Ni	Co	Cr	
WELDING															
Metal Inert Gas (MIG) (ER70S-3 or ER90S-D2 electrode)*	17	5.00	120		0.0052	0.000318	0.000001	0.000001	0.000001	0.442	0.027	8.5E-05	8.5E-05	8.5E-05	0.027
Stick (E6011 electrode)	1	0.53	12.7		0.0384	0.000998	0.000005	0.000001	0.000005	0.020	0.001	2.7E-06	5.3E-07	2.7E-06	0.001
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	Max. Metal Cutting Rate (in./hour)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)***					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
					PM/PM10/PM2.5	Mn	Ni	Co	Cr	PM/PM10/PM2.5	Mn	Ni	Co	Cr	
Plasma**	1	1.25	60	3600	0.0039	0.0005	0.0001	0	0.0003	0.018	2.3E-03	4.5E-04	0.0E+00	1.4E-03	4.1E-03
EMISSION TOTALS															
Potential Emissions lbs/hr										0.48	0.03	5.4E-04	8.6E-05	1.4E-03	0.03
Potential Emissions lbs/day										11.52	0.72	1.3E-02	2.1E-03	3.5E-02	0.76
Potential Emissions tons/year										2.10	0.13	2.4E-03	3.7E-04	6.3E-03	0.14

METHODOLOGY

Welding emission factors from AP-42 Tables 12.19-1 and 12.19-2.

* Facility uses both types of welding wire. Emissions factors for ER70S-3 used in calculations.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted).

Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

***Multiple thicknesses of steel are cut by the source. For the purpose of calculating PTE, the worst case scenario for emissions of 1.25" thickness was used.

plasma cutting is for 8 mm thick rather than 1 inch and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emission Calculations
 LPG-Propane - Ovens
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity
 MMBtu/hr
 3.10

Potential Throughput
 kgals/year
 296.79

SO₂ Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Ovens	Rating in MMBtu/hr
PBMCO	1.5
PBPCCO	0.8
DO1	0.8
Total	3.1

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO ₂	NO _x	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.03	0.10	0.10	0.02	1.93	0.15	1.11

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 gal per 1000 gallon * 1 gal per 0.095 MMBtu.

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
	12,500	0.2	0.9
Potential Emission in tons/yr	1,855	0.03	0.13
Summed Potential Emissions in tons/yr	1,855		
CO ₂ e Total in tons/yr	1,897		

Methodology

The CO₂ Emission Factor for Propane is 12500. The CO₂ Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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 * N₂O GWP (310)

Appendix A: Emission Calculations
 LPG-Propane - Space Heaters
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Space Heaters	Rating in MMBtu/hr
REZ 1 and 2	0.8
MSH1 and MSH2	0.26
CRVT2 #1 - #7	2.94
CRVT3 #1 - #8	3.84
3S1A, 3S2A, 3S3A, 5S9A, and 5S10A	2.4
SH1	0.13
2S4A	0.25
Total	10.62

Heat Input Capacity MMBtu/hr: **10.62**
 Potential Throughput kgals/year: **1016.73**
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = **1.50** grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2 (0.10S)	NOx	VOC **TOC value	CO
Potential Emission in tons/yr	0.10	0.36	0.36	0.08	6.61	0.51	3.81

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
Potential Emission in tons/yr	6,355	0.10	0.46
Summed Potential Emissions in tons/yr	6,355		
CO2e Total in tons/yr	6,499		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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
 LPG-Propane - Make-Up Air Unit
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: 2.00
 Potential Throughput kgals/year: 191.48
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	1.24	0.10	0.72

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore PM10 is based on the filterable and condensable PM emission factors.

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal per 1000 gallon x 1 gal per 0.0915 MMBtu

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	1,197	0.02	0.09
Summed Potential Emissions in tons/yr	1,197		
CO2e Total in tons/yr	1,224		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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 Emissions ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
 LPG-Propane - Tube Heater
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: 1.50
 Potential Throughput kgals/year: 143.61
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = 1.50 grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	0.01	0.05	0.05	0.01	0.93	0.07	0.54

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1, therefore, PM10 is based on the filterable and condensable PM emission factors.
 ** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.
 **The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu
 1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)
 Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 kgal per 1000 gallon x 1 gal per 0.0915 MMBtu
 Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
 Propane Emission Factors shown. Please see AP-42 for butane.
 Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	898	0.01	0.06
Summed Potential Emissions in tons/yr	898		
CO2e Total in tons/yr	918		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300.
 Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)
 Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
 Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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).
 ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
 LPG-Propane - Evaporator
 (Heat input capacity: > 10 MMBtu/hr and < 100 MMBtu/hr)

Company Name: Terra Drive Systems, Inc.
 Source Address: 9098 W 800 S, Brookston, IN 47923
 Permit Number: M181-31817-00031
 Reviewer: Brian Wright
 Date: July 10, 2012

Heat Input Capacity MMBtu/hr: **0.40**
 Potential Throughput kgals/year: **37.82**
 SO2 Emission factor = 0.10 x S
 S = Sulfur Content = **1.50** grains/100ft³

Emission Factor in lb/kgal	Pollutant						
	PM*	PM10*	direct PM2.5**	SO2	NOx	VOC	CO
	0.20	0.70	0.70	0.15 (0.10S)	13.00	1.00 **TOC value	7.50
Potential Emission in tons/yr	3.78E-03	1.32E-02	1.32E-02	2.84E-03	0.25	0.25	0.14

*PM emission factor is filterable PM only. PM emissions are stated to be all less than 10 microns in aerodynamic equivalent diameter, footnote in Table 1.5-1 therefore PM10 is based on the filterable and condensable PM emission factors

** No direct PM2.5 emission factor was given. Direct PM2.5 is a subset of PM10. If one assumes all PM10 to be all direct PM2.5, then a worst case assumption of direct PM2.5 can be made.

**The VOC value given is TOC. The methane emission factor is 0.2 lb/kgal.

Methodology

1 gallon of LPG has a heating value of 94,000 Btu.

1 gallon of propane has a heating value of 91,500 Btu (use this to convert emission factors to an energy basis for propane)

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.0915 MMBt

Emission Factors are from AP42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

Propane Emission Factors shown. Please see AP-42 for butane.

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

Emission Factor in lb/kgal	Greenhouse Gas		
	CO2	CH4	N2O
	12,500	0.2	0.9
Potential Emission in tons/yr	236	0.004	0.017
Summed Potential Emissions in tons/yr	236		
CO2e Total in tons/yr	242		

Methodology

The CO2 Emission Factor for Propane is 12500. The CO2 Emission Factor for Butane is 14300

Emission Factors are from AP 42 (7/08), Table 1.5-1 (SCC #1-02-010-02)

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

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/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
VOC Emission Calculations
Degreasing Operations

Company Name: Terra Drive Systems, Inc.
Source Address: 9098 W 800 S, Brookston, IN 47923
Permit Number: M181-31817-00031
Reviewer: Brian Wright
Date: July 10, 2012

Degreasing Operations	Solvent Used	Maximum Usage (lbs/year)	Weight % VOC	VOC Emissions (ton/yr)
Hose Assembly Cold Degreaser (HACD1)	Simple Green	4000.00	0.50%	0.01

Total Potential Emissions

0.01

METHODOLOGY

VOC emission rate (tpy) = Material Usage (lbs/hr) * Weight % VOC * 8760 hrs/yr * 1 ton/2000 lbs



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

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

TO: John F McKinnis
Terra Drive Systems, Inc.
9098 W 800 S, PO Box 600
Brookston, IN 47923

DATE: October 30, 2012

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

SUBJECT: Final Decision
MSOP
181-31817-00031

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:
Robert B. Jacko, Ph.D., P.E., Consultant

OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Brookston Township Public Library

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

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

Applicant Name: Terra Drive Systems
Permit Number: 181-31817-00031

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

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

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 10/30/2012 Terra Drive Systems, Inc. 181-31817-00031 (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		

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1		John F McKinnis Terra Drive Systems, Inc. 9098 W 800 S, PO Box 600 Brookston IN 47923 (Source CAATS) (CONFIRM DELIVERY)										
2		Mr. Harry D. DuVall P.O. Box 147 Idaville IN 47950 (Affected Party)										
3		White County Commissioners P.O. Box 260 Monticello IN 47960-0260 (Local Official)										
4		Mr. Brookston Township Public Library 111 West 2nd Street Brookston IN 47923 (Library)										
5		Ms. Magie Read P.O. Box 248 Battle Ground IN 47920 (Affected Party)										
6		Mr. Robert Kelley 2555 S 30th Street Lafayette IN 44909 (Affected Party)										
7		Brookston Town Council P.O. Box 238 Brookston IN 47923 (Local Official)										
8		White County Health Department 315 N Illinois St Monticello IN 47960 (Health Department)										
9		Robert B. Jacko, Ph.D., P.E. R.B. Jacko & Associates 2530 Shagbark Lane West Lafayette IN 47906 (Consultant)										
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