INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: July 11, 2013

RE: Thermwood Corporation / 147-33056-00039

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

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot 6/13/13

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Michael R. Pence
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Minor Source Operating Permit Renewal
OFFICE OF AIR QUALITY

Thermwood Corporation
904 Old Buffaloville Road
Dale, Indiana 47523

(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.: M147-33056-00039	
Issued by: Tripurari Sinha Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: July 11, 2013 Expiration Date: July 11, 2023

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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 an industrial machinery manufacturing plant..

Source Address:	904 Old Buffaloville Road, Dale, Indiana 47523
General Source Phone Number:	(812) 937-4476
SIC Code:	3359
County Location:	Spencer
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) Two (2) paint spray booths, identified as SPB-1 and SPB-2, constructed in 1976, for applying coatings to computer numerical controlled (CNC) metal routers, equipped with four (4) high volume low pressure (HPLV) spray guns, coating a maximum of 0.089 unit per hour, using dry paper filters to control particulate emissions, and venting to the atmosphere via stacks SPB#1 and SPB#2, respectively.

(b) Two (2) wood working Routers:

(1) One (1) CNC router, identified as R-1, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter with a flow rate of 1500 acfm at a maximum loading of 0.03 gn/cf, and exhausting indoors to GV.

(2) One (1) CNC routers, identified as R-2, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter in series with a cyclone with a flow of 1973 acfm at a maximum loading of 0.03 gn/cf, exhausting indoors to GV.

(c) One (1) shot blaster, identified as Bl, constructed in 2007, using glass beads as the blast media, controlled by a fabric filter for particulate control, with a flow rate of 1180 cfm and loading 0.03 gn/cf, at a process throughput of less than 100 pounds per hour, and exhausting to GV.

(d) Four (4) metal inert gas (MIG) welding stations, three (3) oxyacetylene cutters and three (3) plasma cutters with a maximum wire consumption rate of 0.23 lbs/hr per station, at a process weight rate of 2,340 pounds (1.17 tons) per hour, vented to the atmosphere.

(e) Three (3) parts washers, identified as CI, constructed in 2007, with a maximum solvent usage less than 145 gallons per 12 months, using non-halogenated solvents, and exhausting to GV.

(f) Twenty Eight (28) natural gas fired air make-up units and space heaters, constructed before 2000, with a combined heating capacity of 7.809 MMBTU per hour:

(1) One (1) natural gas-fired air makeup unit rated at 3.456 MMBtu/hr vented to the atmosphere.

(2) One (1) natural gas-fired heating unit rated at 0.203 MMBtu/hr vented to the atmosphere.

(3) Seventeen (17) natural gas-fired heating units each rated at 0.20 MMBtu/hr vented to the atmosphere.

(4) Two (2) natural gas fired heating units each rated at 0.12 MMBtu/hr vented to the atmosphere.

(5) One (1) natural gas-fired heating unit rated at 0.10 MMBtu/hr vented to the atmosphere.

(6) One (1) natural gas-fired heating unit rated at 0.08 MMBtu/hr vented to the atmosphere.

(7) Two (2) natural gas-fired heating units each rated at 0.075 MMBtu/hr vented to the atmosphere.

(8) Three (3) natural gas-fired heating units each rated at 0.060 MMBtu/hr vented to the atmosphere.

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, M147-33056-00039, 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 M147-33056-00039 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) Two (2) paint spray booths, identified as SPB-1 and SPB-2, constructed in 1976, for applying coatings to computer numerical controlled (CNC) metal routers, equipped with four (4) high volume low pressure (HPLV) spray guns, coating a maximum of 0.089 unit per hour, using dry paper filters to control particulate emissions, and venting to the atmosphere via stacks SPB#1 and SPB#2, respectively.

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

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

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

(a) Particulate from surface coating booths SPB-1 and SPB-2 shall be controlled by dry particulate filters, and the Permittee shall operate each control device in accordance with manufacturer's specifications.

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

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

D.1.2 Record Keeping Requirement

(a) To document compliance with Condition D.1.1 the Permittee shall maintain a record of any actions taken if overspray is visibly detected.

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) Two (2) wood working Routers:

(1) One (1) CNC router, identified as R-1, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter with a flow rate of 1500 acfm at a maximum loading of 0.03 gn/cf, and exhausting indoors to GV.

(2) One (1) CNC routers, identified as R-2, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter in series with a cyclone with a flow of 1973 acfm at a maximum loading of 0.03 gn/cf, exhausting indoors to GV.

(d) One (1) shot blaster, identified as BI, constructed in 2007, using sand blast media, controlled by a fabric filter for particulate control, flow rate of 1180 cfm and loading 0.03 gn/cf, at a process throughput of less than 100 pounds per hour, and exhausting indoors to GV.

(e) Four (4) metal inert gas (MIG) welding stations with a maximum wire consumption rate of 0.23 lbs/hr per stations, at a process weight rate of 2,340 pounds (1.17 tons) per hour, vented to the atmosphere.

(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 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Emission Unit	Process Weight Rate (lbs/hr)	Allowable PM Limit (lbs/hr)
CNC Router/R-1	800	2.22
CNC Router/R-2	800	2.22
shot blaster/BI	100	0.551

The pound per hour limitation was calculated with the following equation:

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

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

Compliance Determination Requirements

D.2.2 Particulate Control

In order to comply with Condition D.2.1, the integral cartridge filters to each of the routers and dust collectors for the shot blaster, for particulate control, shall be in operation at all times the routers and the shot blaster are in operation.

D.2.3 Manufacturer's Specifications [326 IAC 2-6-1.5]

The two (2), identified as R-1and R-2 and their cartridge filtration integral to the system shall each operate per manufacturer's specifications.

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

D.2.4 Filter Inspections

The Permittee shall perform an inspection of the fabric filters of the routers and the shot blaster on a semi-annual basis. All defective filters shall be replaced.

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

D.2.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.4, the Permittee shall maintain records of the results of the inspections required under Condition D.2.4.

(b) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(f) Three (3) parts washers, identified as CI, constructed in 2007, with a maximum solvent usage less than 145 gallons per 12 months, using non-halogenated solvents, and exhausting to GV.

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

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), for the Three (3) parts washers, identified as CI:

(a) The Permittee shall ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover;
(2) Equip the degreaser with a device for draining cleaned parts;
(3) Close the degreaser cover whenever parts are not being handled in the degreaser;
(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (a)(3), (a)(4), (a)(6), and (a)(7);
(6) Store waste solvent only in closed containers.
(7) Prohibit the disposal or transfer of waste solvent, in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:
(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

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:	Thermwood Corporation
Address:	904 Old Buffaloville Road
City:	Dale, Indiana 47523
Phone #:	(812) 937-4476
MSOP #:	M147-33056-00039

I hereby certify that Thermwood Corporation is : □ still in operation.
□ no longer in operation.

I hereby certify that Thermwood Corporation is : □ in compliance with the requirements of MSOP M147-33056-00039.
□ not in compliance with the requirements of MSOP M147-33056-00039.

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

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

Source Background and Description

Source Name:	**Thermwood Corporation**
Source Location:	**904 Old Buffaloville Road, Dale, Indiana 47523**
County:	**Spencer**
SIC Code:	**3559**
Permit Renewal No.:	**M147-33056-00039**
Permit Reviewer:	**Bruce Farrar**

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Thermwood Corporation relating to the operation of an industrial machinery manufacturing facility. On April 8, 2013, Thermwood Corporation submitted an application to the OAQ requesting to renew its operating permit. Thermwood Corporation was issued a MSOP (M147-26505-00039) on October 6, 2008.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

(a) Two (2) paint spray booths, identified as SPB-1 and SPB-2, constructed in 1976, for applying coatings to computer numerical controlled (CNC) metal routers, equipped with four (4) high volume low pressure (HVLP) spray guns, coating a maximum of 0.089 unit per hour, using dry paper filters to control particulate emissions, and venting to the atmosphere via stacks SPB#1 and SPB#2, respectively.

(b) Two (2) wood working Routers:

(1) One (1) CNC router, identified as R-1, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter with a flow rate of 1,500 acfm at a maximum loading of 0.03 gn/cf, and exhausting indoors to GV.

(2) One (1) CNC routers, identified as R-2, constructed in 2000, maximum capacity of 800 pounds per hour of spoil wood boards, equipped with an integral cartridge filter in series with a cyclone with a flow of 1,973 acfm at a maximum loading of 0.03 gn/cf, exhausting indoors to GV.

(c) One (1) shot blaster, identified as Bl, constructed in 2007, using glass beads as the blast media, controlled by a fabric filter for particulate control, with a flow rate of 1180 cfm and loading 0.03 gn/cf, at a process throughput of less than 100 pounds per hour, and exhausting to GV.

(d) Four (4) metal inert gas (MIG) welding stations, three (3) oxyacetylene cutters and three (3) plasma cutters with a maximum wire consumption rate of 0.23 lbs/hr per station, with a total a process weight rate of 2,340 pounds (1.17 tons) per hour, vented to the atmosphere.

(e) Three (3) parts washers, identified as CI, constructed in 2007, with a maximum solvent usage less than 145 gallons per 12 months, using non-halogenated solvents, and exhausting to GV.

(f) Twenty Eight (28) natural gas fired air make-up units and space heaters, constructed before 2000, with a combined heating capacity of 7.809 MMBTU per hour:

(1) One (1) natural gas-fired air makeup unit rated at 3.456 MMBtu/hr vented to the atmosphere.

(2) One (1) natural gas-fired heating unit rated at 0.203 MMBtu/hr vented to the atmosphere.

(3) Seventeen (17) natural gas-fired heating units each rated at 0.20 MMBtu/hr vented to the atmosphere.

(4) Two (2) natural gas fired heating units each rated at 0.12 MMBtu/hr vented to the atmosphere.

(5) One (1) natural gas-fired heating unit rated at 0.10 MMBtu/hr vented to the atmosphere.

(6) One (1) natural gas-fired heating unit rated at 0.08 MMBtu/hr vented to the atmosphere.

(7) Two (2) natural gas-fired heating units each rated at 0.075 MMBtu/hr vented to the atmosphere.

(8) Three (3) natural gas-fired heating units each rated at 0.060 MMBtu/hr vented to the atmosphere.

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

(a) One (1) paint spray booth, identified as SPB-3, constructed in 2007, for applying several coats to wood furniture products with eight paint options, equipped with four (4) High Volume Low Pressure (HVLP) spray guns and spraying/ brushing maximum of 0.50 unit per hour, utilizing dry filters for particulate overspray control, and exhausting to stack SPB3.

(b) Two (2) wood working Routers:

Two (2) CNC routers, identified as R-3 and R-4, constructed in 2007, maximum capacity of 0.5 unit per hour each for wood furniture, equipped with an integral cartridge filter in series with a cyclone with a flow of 1973 acfm at a maximum loading of 0.03 gn/cf, at a process throughput of 800 pounds of wood per hour each, exhausting indoors to GV.

Existing Approvals

The Source was issued a MSOP 147-26505-00039 on October 6, 2008.

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.

Air Pollution Control Justification as an Integral Part of the Process

The applicant has submitted following justification why the dust collectors controlling routers, R-1 and R-2, should be considered an integral part of the wood working operation on July 15, 2008.

(1) Exhaust inside the building without the use of dust collectors:
Air inside the building flows to the surface coating booths because of stack exhaust from the booths. Any dust released inside the building would flow to the booths. The surface coating operation at the facility is very high quality (high-grade furniture) and sensitive to quality control issues. Dust in the paint would not meet quality specifications and would render the product unsaleable. Thus, the dust collectors are necessary for production of the product.

(2) Exhaust outside the building without the use of dust collectors:
The dust could be exhausted through the roof to eliminate the dust collectors. This design would require one or more make-up air units (total 7,419 cfm) to replace the exhausted air. The make-up air would draw in dust from the woodworking exhaust whenever it is upwind of the make-up air unit. Thus, a cartridge filter would be needed on the make-up air equivalent to the second stage of the existing dust collector units. Based on grain loading the PTE of the 4 systems is 835 TPY PM. Much of the sawdust would settle out on the roof, parking lot, cars and neighboring properties. At a minimum, the roof would have to be cleaned frequently to prevent structural collapse. Cars would have to be cleaned as well. The only savings under this justification would be the elimination of the cyclone (first stage of the dust collector unit) at an estimated savings of $1,000 per unit or $4,000. The additional costs would be:

(a) The stacks thru the roof;

(b) The make-up air system (contractor estimate is $18,000 including installation);

(c) The heating costs (natural gas) for the make-up air (cost is $574,000 per year for 6 months heating at average 25 degrees F heat rise and $12 per Mcf);

(d) Labor and equipment to clean the roof and cars;

(e) and liability for dust on neighbors' property.

Thus, it is clear that there is an overwhelming cost advantage to the existing dust collectors at the point of generation.

IDEM, OAQ has evaluated the justifications submitted on July 15, 2008, and has determined that the dust collectors for R-1 and R-2 should not be considered as an integral part of the wood working process. This determination is based on the fact that the wood working routers can still operate without the control device, and the control device does not serve a primary purpose other than pollution control. Also, there is no significant positive net economic benefit by recycling the dust.

The applicant has resubmitted following justification on August 4, 2008, after discussing further options with IDEM, OAQ, which included the installation of interlock device which will make the routers inoperable if control equipment is not working.

(3) Interlocking device:
Thermwood installed interlocks on 07/28/ 2008 on its woodworking routers to prevent operation of the units without the attached dust collectors. The routers will not work if the control device is not in operation.

IDEM, OAQ has evaluated the justification submitted for option 3 and agrees that the dust collectors controlling particulate emissions from routers R-1 and R-2 are integral part of the process. This

determination is based on the fact that it is not possible to bypass the control equipment while operating each of the routers, and the woodworking operation will cease the operation if the control device is not functioning properly. Therefore, the permitting level will be determined using the potential to emit after the cartridge filters in series with cyclone. Operating conditions in the proposed permit will specify that this cartridge filter and cyclone shall operate at all times when the woodworking process is in operation.

This conclusion was initially determined under MSOP (M147-26505-00039) on October 6, 2008.

In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge ("ALJ") Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, potential emissions for particulate matter were calculated after consideration of the controls for determining operating permit level purposes.

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 Spencer County (Carter Township).

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective October 27, 2011, for the Ohio Twp for PM2.5. The remainder of Spencer County is unclassifiable or attainment effective April 5, 2005, for PM2.5.

(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. Spencer 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) $PM_{2.5}$
Spencer 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 $PM_{2.5,}$ $SO_{2,}$ and NOx 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
Spencer County has been classified as attainment or unclassifiable in Indiana for all regulated pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

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										
Emission Units/Process	**PM**	**PM10**	**PM2.5**	**S02**	**VOC**	**NOx**	**CO**	**GHG as CO2e**	**Total HAPs**	**Single HAP**
Surface Coating Booths SPB-1 and SPB-2	2.98	2.98	2.98	-	20.80	-	-	-	0.45	0.25 (Xylene)
Shot Blaster (BI)	14.41	10.09	10.09	-	-	-	-	-	-	-
CNC Routers R-1 and R-2	3.91	3.91	3.91	-	-	-	-	-	-	-
Parts Washer	-	-	-	-	0.07	-	-	-	-	-
Welding and Thermal Cutting	4.17	4.17	4.17	-	-	-	-	-	3.16E-03	3.16E-03 (Maganese)
Combustion	0.06	0.25	0.25	0.02	0.18	3.35	2.82	4,048	6.33E-02	6.04E-02 (Hexane
Totals:	**25.69**	**21.55**	**21.55**	**0.02**	**21.19**	**3.35**	**2.82**	**4,048**	**0.52**	

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 criteria pollutants, excluding GHGs, is less than 100 tons per year. However, PM is equal to or greater than twenty-five (25) tons per year. The source is not subject to the provisions of 326 IAC 2-7. 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 CO_2 equivalent emissions (CO_2e) 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 (NSPS) (40 CFR 60 and 326 IAC 12)

(b) This requirements of the New Source Performance Standard for Surface Coating of Metal Furniture, 40 CFR 60.310, Subpart EE (326 IAC 12) are not included in the permit, because this source does not coat metal furniture.

(c) 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 (NESHAP) (40 CFR 61/63) (326 IAC 14/20)

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Metal Parts and Products Surface Coating, 40 CFR 63 Subpart MMMM (326 IAC 20-80), are not included in the permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wood Surface Coatings Operations, 40 CFR 63, Subpart JJ (326 IAC 20-14), are not included in the permit because the source is not a major source of HAPs as defined in 40 CFR 63.2.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating or Paint Stripping and Miscellaneous Surface Coating Operations, 40 CFR 63 Subpart HHHHHH are not included in the permit because this source is not involved in the use of chemical strippers that contain methyl chloride (MeCl) in paint removal process, and the surface coating used at this source do not contain chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Halogenated Solvent Cleaning , 40 CFR 63 Subpart T (326 IAC 20-6), are not included in the permit for the because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).

(h) 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

(a) 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.

(b) 326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1).

(c) 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.

(d) 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.

State Rule Applicability – Individual Facilities

Surface Coating Booths SPB-1 and SPB-2

(e) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(d), particulate from surface coating booths SPB-1 and SPB-2 shall each be controlled by dry particulate filters, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

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

(f) 326 IAC 8-1-6 (New facilities; general reduction requirements)
The two (2) Surface Coating Booths, SPB1 and SPB2, are not subject to 326 IAC 8-1-6, because they were constructed before January 1, 1980 and each booth has potential VOC emission less than 25 tons per year.

(g) 326 IAC 8-2-9 (Miscellaneous Metal Coating)
The two (2) Surface Coating Booths, SPB1 and SPB2, are not subject to 326 IAC 8-2-9 because these facilities existed as of November 1, 1980, but are not located in Clark, Elkhart, Floyd, Lake, Marion, Porter, or St. Joseph Counties.

(h) 326 IAC 8-6-1 (Applicability of Rule)
This rule is applicable for sources that commenced operations after October 7, 1974 and prior to January 1, 1980, located anywhere in the state with potential VOC emissions equal to or greater than 100 tons per year and not limited by other rule. The Paint booths SPB1 and SPB-2 were constructed in 1976, however, the total potential VOC emissions are less than 100 tons per year, therefore 8-6-1 does not apply.

Routers (R-1and R-2)

(i) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Emission Unit	Process Weight Rate (lbs/hr)	Allowable PM Limit (lbs/hr)
R-1	800	2.22
R-2	800	2.22

The pound per hour limitation was calculated with the following equation:

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

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

The OAQ has determined the cartridge filtration system in series with the cyclone is integral to each of the wood working operations, R-1 and R-2. The respective cartridge filtration system must be in operation at all times when the wood working routers are in operation in order to comply with this limit.

Welding (MIG)

(j) (326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(9), the four (4) MIG welders are exempt from the requirements of 326 IAC 6-3-2 because each welder consumes less than 625 pounds of rod or wire per day.

Abrasive Blasting (Bl)

(k) (326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e)(2), when the process weight rate is less than 100 pounds per hour, the allowable rate of emission is 0.551 pound per hour.

The fabric filter shall be in operation at all times the abrasive blaster (BI) is in operation, in order to comply with this limit.

Parts washer Cl

(l) Volatile Organic Compounds (VOC) [326 IAC 8-1-1]
Pursuant to 326 IAC 8-3-1 (Organic Solvent Degreasing Operations), the three (3) parts washers are each subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operations), since parts washer meets the definition of a cold cleaner degreaser under 326 IAC 1-2-18.5, utilize a organic solvent containing volatile organic compounds (VOCs) (as defined by 326 IAC 1-2-90), was constructed after the January 1, 1980, and does not have remote solvent reservoir.

Natural Gas-Fired Heaters

(m) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The natural gas-fired heaters are not subject to 326 IAC 6-2 as they are not sources of indirect heating.

(n) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), each of the natural gas-fired heaters are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-51, liquid and gaseous fuels and combustion air are not considered as part of the process weight.

(o) 326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)
The natural gas-fired heaters are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Compliance Determination and Monitoring Requirements

The source has no applicable compliance monitoring requirements.

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 April 8, 2013.

Conclusion

The operation of this industrial machinery manufacturing facility shall be subject to the conditions of the attached MSOP Renewal No. 147-33056-00039.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Bruce Farrar 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) 234-5401or toll free at 1-800-451-6027 extension 4-5401.

(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
Emissions Summary

Company Name: Thermwood Corporation
Address City IN Zip: 904 Dale-Buffaloville Road, Dale, IN 46523
Operation Permit Renewal: M147-33056-00039
Reviewer: Bruce Farrar
Date: April 8, 2013

Potential to Emit (tons per year)											
Emission Units/Process	**PM**	**PM10**	**PM2.5**	**S02**	**VOC**	**NOx**	**CO**	**GHG as CO2e**	**Total HAPs**	**Single HAP**	
Surface Coating Booths SPB-1 and SPB-2	2.98	2.98	2.98	-	20.80	-	-	-	0.45	0.25	Xylene
Shot Blaster (BI)	14.41	10.09	10.09	-	-	-	-	-	-	-	
CNC Routers R-1 and R-2	3.91	3.91	3.91	-	-	-	-	-	-	-	
Parts Washer	-	-	-	-	0.21	-	-	-	-	-	
Welding and Thermal Cutting	4.32	4.32	4.32	-	-	-	-	-	2.65E-03	2.65E-03	Manganese
Combustion	0.06	0.25	0.25	0.02	0.18	3.35	2.82	4,048	6.33E-02	6.04E-02	Hexane
Totals:	**25.69**	**21.55**	**21.55**	**0.02**	**21.19**	**3.35**	**2.82**	**4,048**	**0.52**		

Appendix A: Emissions Calculations

Metal Surface Coating Operations-Booths SPB1 and SPB 2

Company Name: Thermwood Corporation
Address City IN Zip: 904 Dale-Buffaloville Road, Dale, IN 46523
Operation Permit Renewal: M147-33056-00039
Reviewer: Bruce Farrar
Date: April 8, 2013

Material Coated- Metal CNC Routers **VOC and Particulate**

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Actual usage gal/yr	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	PTE VOC lbs/hr	PTE VOC lbs/ day	PTE VOC tons/ year	Actual VOC tons/ year	PTE PM/PM10 (ton/yr)	lb VOC/gal solids	Transfer Efficiency
CF Varaprime 22805s	6.72	96.16%	12.50%	83.66%	10.08%	1.57%	63	0.315	0.089	6.25	5.62	0.16	3.78	0.69	0.18	0.01	0.03	75%
CF Varaprime Converter 22860s	7.85	76.94%	0.00%	76.94%	0.00%	23.06%	63	0.315	0.089	6.04	6.04	0.17	4.06	0.74	0.19	0.06	0.22	75%
RTS 1:1																		
Flat Black Enamel - W412	8.80	55.34%	0.00%	55.34%	0.00%	unk	24	0.120	0.089	4.87	4.87	0.05	1.25	0.23	0.06	0.05	0.18	75%
Imron Topcoat (333M28042)	9.38	41.60%	0.00%	41.60%	0.00%	48.16%	385	1.925	0.089	3.90	3.90	0.67	16.04	2.93	0.76	1.03	4.11	75%
Imron Activator (VG-M-6005)	9.35	10.00%	0.00%	10.00%	0.00%	87.23%	97	0.481	0.089	0.94	0.94	0.04	0.96	0.18	0.05	0.39	1.58	75%
Imron Accelator (389S)	8.14	99.50%	0.00%	99.50%	0.00%	0.94%	6	0.075	0.089	8.10	8.10	0.05	1.31	0.24	0.06	0.00	0.00	75%
Imron Reducer (VHY691)	7.54	98.45%	0.00%	98.45%	0.00%	1.34%		0.038	0.089	7.42	7.42	0.02	0.60	0.11	0.03	0.00	0.00	75%
RTS 102:26:4:2																		
Polane Primer (E65A71)	13.33	20.18%	0.10%	20.08%	0.16%	61.00%	241	1.205	0.089	2.68	2.68	0.29	6.89	1.26	0.33	1.25	5.00	75%
Polane Primer Catalyst (V66V44)	9.32	27.47%	0.00%	27.47%	0.00%	63.00%	66	0.301	0.089	2.56	2.56	0.07	1.65	0.30	0.08	0.20	0.79	75%
Polane Primer Accelerator	7.03	95.45%	0.00%	95.45%	0.00%	4.00%	14	0.071	0.089	6.71	6.71	0.04	1.02	0.19	0.05	0.00	0.01	75%
RTS 102:26:6																		75%
																		75%
CLEAN-UP SOLVENTS:																		75%
360 Laquer Thinner GunCleaner	6.49	100.00%	0.00%	100.00%	0.00%	0.00%	385	1.925	0.089	6	6.489	1.112	27	4.869	1.27	0.00	0.00	75%
340 PreCleaner (Solvent 340)	6.51	100.00%	0.00%	100.00%	0.00%	0.00%	715	3.575	0.089	7	6.510	2.071	50	9.072	2.37	0.00	0.00	75%
Total														**20.80**	**5.43**	**2.98**		

Dry Filter Control Efficiency =	**90%**
Worst Case Coating PTE PM/PM10 (After Controls) =	**0.30**

NOTES:
(1) 326 IAC 8-2-9 does not apply since booths were constructed in 1976.
(2) There are no emission factors in AP-42 , PM2.5 = PM10

METHODOLOGY

Particulate Potential (PM/PM10)Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

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) * Maximumunk

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)

Appendix A: Emissions Calculations

Metal Surface Coating Operations-Booths SPB1 and SPB 2

Company Name: Thermwood Corpor 147-26505-00039
Address City IN Zip: 904 Dale-Buffalovill Swarna Prabha
Operation Permit Renewal: M147-33056-00039
Reviewer: Bruce Farrar
Date: April 8, 2013

PTE of HAPs

Material	Density (lbs/gal)	Maximum (unit/hour)	Maximum Capacity (gal/unit)	Maximum Usage * (gals/hour)	Weight % Toluene	Weight % Xylene	Weight % Ethylbenzene	Weight % Formaldehyde	Weight %Methanol	Weight % MEBK	PTE of Toulene (tons/yr)	PTE of MEBK (tos/yr)	PTE of Ethylbenzene (tons/yr)	PTE of Formaldehyde (tons/yr)	PTE of Xylene (tons/yr)	PTE of Methanol (tons/yr)	Total PTE of HAPs
CF Varaprime 22805s	6.72	0.089	0.32	0.03	1%				1.00%		0.01	0.00	0.00	0.00	0.00	0.0001	0.01
CF Varaprime Converter 22860s	7.85	0.089	0.32	0.028		2.0%	0.6%	0.2%			0.00	0.00	0.01	0.002	0.02	0.0000	0.03
Flat Black Enamel - W412	8.80	0.089	0.12	0.011		33%	6.0%				0.00	0.00	0.02	0.00	0.14	0.0000	0.16
Imron Topcoat (333M28042)	9.38	0.089	1.93	0.171			0.1%				0.00	0.00	0.01	0.00	0.00	0.0000	0.01
Imron Activator (VG-M-6005)	9.35	0.089	0.48	0.043							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
Imron Accelator (389S)	8.14	0.089	0.08	0.007							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
Imron Reducer (VHY691)	7.54	0.089	0.04	0.003							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
Polane Primer (E65A71)	13.33	0.089	1.21	0.107	1%						0.06	0.00	0.00	0.00	0.00	0.0000	0.06
Polane Primer Catalyst (V66V44)	9.32	0.089	0.30	0.027							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
Polane Primer Accelerator	7.03	0.089	0.07	0.006		51%	9.0%			36%	0.00	0.07	0.02	0.00	0.10	0.0000	0.19
CLEAN-UP SOLVENTS:	6.49	0.089	1.93	0.171							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
360 Laquer Thinner GunCleaner	6.51	0.089	3.58	0.318							0.00	0.00	0.00	0.00	0.00	0.0000	0.00
340 PreCleaner (Solvent 340)											0.00	0.00	0.00	0.00	0.00	0.0000	0.00
Total											**0.07**	**0.07**	**0.06**	**0.002**	**0.254**	**0.0001**	**0.452**

METHODOLOGY

HAPS emission rate (tons/yr) = [Maximum Usage (lb/hr)] * [Weight % HAP] * [8760 hours/yr] * [1 ton/2000 lbs]

Appendix A: Emission Calculations
Abrasive Blasting - Confined

Company Name: Thermwood Corporation
Address City IN Zip: 904 Dale-Buffaloville Road, Dale, IN 46523
Operation Permit Renewal: M147-33056-00039
Reviewer: Bruce Farrar
Date: April 8, 2013

Table 1 - Emission Factors for Abrasives

	Emission Factor (EF)	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate (FR1) of sand through a blasting nozzle as a function of nozzle pressure and internal diameter (ID1)

		Nozzle Pressure (psig)							
Nozzle Type (diameter)	Internal diameter, in	30	40	50	60	70	80	90	100
No. 2 (1/8 inch)	0.125	28	35	42	49	55	63	70	77
No. 3 (3/16 inch)	0.1875	65	80	94	107	122	135	149	165
No. 4 (1/4 inch)	0.25	109	138	168	195	221	255	280	309
No. 5 (5/16 inch)	0.3125	205	247	292	354	377	420	462	507
No. 6 (3/8 inch)	0.375	285	355	417	477	540	600	657	720
No. 7 (7/16 inch)	0.4375	385	472	560	645	755	820	905	940
No. 8 (1/2 inch)	0.5	503	615	725	835	945	1050	1160	1265
No. 10 (5/8 inch)	0.625	820	990	1170	1336	1510	1680	1850	2030
No. 12 (3/4 inch)	0.75	1140	1420	1670	1915	2160	2400	2630	2880
No. 16 (1 inch)	1	2030	2460	2900	3340	3780	4200	4640	5060

CALCULATIONS

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters
Flow Rate (FR) = Abrasive flow rate (lb/hr) of abrasive at nozzle pressure and internal nozzle diameter (ID)

D1 = Density of sand from Table 2 =	99	lb/ft3
ID1 = Internal diameter of nozzle for sand blasting from Table 3 =	0.25	inch
FR1 = Sand flow rate at nozzle pressure and internal diameter (ID1) from Table 3 =	295	lb/hr
D = Density of actual abrasive =	99	lb/ft3
ID = internal diameter of actual nozzle =	0.264	inch
FR = Flow rate of actual abrasive (lb/hr) =	329.0	lb/hr (per nozzle)

Potential to Emit Before Control

FR = Flow rate of actual abrasive (lb/hr) =	329.0	lb/hr (per nozzle)	
w = fraction of time of wet blasting =	0	%	
N = number of nozzles =	1		
EF = PM emission factor for actual abrasive from Table 1 =	0.010	lb PM/ lb abrasive	
PM10 emission factor ratio for actual abrasive from Table 1 =	0.70	lb PM10 / lb PM	
	PM	**PM10**	
Potential to Emit (before control) =	**3.290**	**2.303**	**lb/hr**
=	**78.95**	**55.27**	**lb/day**
=	**14.41**	**10.09**	**ton/yr**

Potential to Emit After Control

	PM	PM10	
Emission Control Device Efficiency =	**95.0%**	**95.0%**	
Potential to Emit (after control) =	**1.6E-01**	**1.2E-01**	**lb/hr**
=	**3.948**	**2.763**	**lb/day**
=	**0.720**	**0.504**	**ton/yr**

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Flow rate of actual abrasive (FR) (lb/hr) = FR1 x (ID/ID1)^2 x (D/D1)
Potential to Emit (before control) = EF x FR x (1 - w/200) x N (where w should be entered in as a whole number (if w is 50%, enter 50))
Potential to Emit (after control) = [Potential to Emit (before control)] * [1 - control efficiency]
Potential to Emit (tons/year) = [Potential to Emit (lbs/hour)] x [8760 hours/year] x [ton/2000 lbs]

Appendix A: Emissions Calculations
CNC Routers R-1 and R-2

Company Name: **Thermwood Corporation**
Address City IN Zip: **904 Dale-Buffaloville Road, Dale, IN 46523**
Operation Permit Renewal: **M147-33056-00039**
Reviewer: **Bruce Farrar**
Date: **April 8, 2013**

Unit ID	*Control Efficiency (%)	Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.)	Gas or Air Flow Rate (acfm.)	PTE of PM/PM10 before Controls (lb/hr)	PTE of PM/PM10 before Controls (tons/yr)	PTE of PM/PM10 after integral Controls (lb/hr)	PTE of PM/PM10 after integral Controls (tons/yr)
Router R1	99.0%	0.030	1,500	38.57	168.94	0.39	1.69
Router R2	99.0%	0.030	1,973	50.73	222.22	0.51	2.22
			TOTALS	**89.31**	**391.16**	**0.89**	**3.91**

PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
Ther is no emission Factor in AP-42, PM10 = PM2.5
*The control device is considered integral to the process

Methodology
Emission Rate in lbs/hr (after controls) = (grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Emission Rate in lbs/hr (before controls) = Emission Rate (after controls): (lbs/hr)/(1-control efficiency)
Emission Rate in tons/yr = (lbs/hr) (8760 hr/yr) (ton/2000 lb)

Allowable Rate of Emissions

		326 IAC 6-3-2 (e)	
Emission Unit Router	Process Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable PM/PM10 Emissions (lbs/hr)
R1	800.0	0.40	2.22
R2	800.0	0.40	2.22

Compliance with 326 IAC 6-3-2:

Allowable Emissions, E = 4.10 * P^0.67 (for weight rates up to 60,000 lb/hr)
where E = emissions in lbs/hr
P = process weight in tons/hr
The use of baghouse ensures compliance with the limits above.

Appendix A: Emissions Calculations
Parts Washer

Company Name: **Thermwood Corporation**
Address City IN Zip: **904 Dale-Buffaloville Road, Dale, IN 46523**
Operation Permit Renewal: **M147-33056-00039**
Reviewer: **Bruce Farrar**
Date: **April 8, 2013**

Parts Washer PTE VOC

Parts Washer	VOC %	VOC PTE tons/yr
gal/yr		
60.00	100%	0.21

Methodology

Density of Water = 8.34 lbs/gal
Specific Gravity for Hydrotreated distillate CAS#64742-47-8 = 0.825
Solvent VOC content = 100%

VOC Emissions (tons/yr) = Solvent (gallon/yr) * Solvent Specific Gravity (.825)* Density of water(8.34) *[(100/100) VOC / 2000 lbs/ton]

Appendix A: Emissions Calculations
Welding and Thermal Cutting

Company Name: **Thermwood Corporation**
Address City IN Zip: **904 Dale-Buffaloville Road, Dale, IN 46523**
Operation Permit Renewal: **M147-33056-00039**
Reviewer: **Bruce Farrar**
Date: **April 8, 2013**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	4	0.23		0.0055	0.0005			0.005	0.000	0.000	0	0.000
	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
FLAME CUTTING				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	3	2	15	0.1622	0.0005	0.0001	0.0003	0.876	0.000	0.000	0.000	0.000
Plasma**	3	0.375	150	0.0039				0.105	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.99				0.00
Potential Emissions lbs/day								23.67				0.01
Potential Emissions tons/year								4.32				2.65E-03

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
**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.

METHODOLOGY

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
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)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
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.
Welding and other flame cutting emission factors are from an internal training session document.
Refer to AP-42, Chapter 12.19 for additional emission factors for welding.

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

Company Name: Thermwood Corporation
Address City IN Zip: 904 Dale-Buffaloville Road, Dale, IN 46523
Operation Permit Renewal: M147-33056-00039
Reviewer: Bruce Farrar
Date: April 8, 2013

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
7.8	1020	67.1

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.06	0.25	0.25	0.02	3.35	0.18	2.82

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

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	7.042E-05	4.024E-05	2.515E-03	6.036E-02	1.140E-04	**6.310E-02**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.677E-05	3.689E-05	4.695E-05	1.274E-05	7.042E-05	**1.838E-04**
					Total HAPs	**6.328E-02**
					Worst HAP	**6.036E-02**

Methodology is the same as above.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Greenhouse Gas Calculations

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	4,024	0.1	0.1
Summed Potential Emissions in tons/yr	4,024		
CO2e Total in tons/yr	4,048		

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: David Stutsman
Thermwood Corporation
PO Box 436
Dale, IN 47523-0436

DATE: July 11, 2013

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

SUBJECT: Final Decision
Thermwood Corporation
147-33056-00039

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:
Donald Ubelhor, Responsible Official
John W. Kilmer, Bruce Carter Associates, 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 6/13/2013

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

July 11, 2013

TO: Lincoln Heritage Public Library

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

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

Applicant Name: **Thermwood Corporation**
Permit Number: **147-33056-00039**

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

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

Enclosures
Final Library.dot 6/13/2013

Mail Code 61-53

IDEM Staff	DPABST 7/11/2013 Thermwood Corporation 147-33056-00039 (final)		
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

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2		Donald Ubelhor VP E-Cabinet Systems Thermwood Corporation PO Box 436 Dale IN 47523-0436 *(RO CAATS)*									
3		Ms. Francis Lueken 223 W. 10th Street, P.O. Box 206 Ferdinand IN 47532 *(Affected Party)*									
4		Lincoln Heritage public Library Hammond and Wallace Sts, P.O. Box 564 Dale IN 47523-0564 *(Library)*									
5		Ms. Kathy Tretter Dubois-Spencer Counties Publishing Co, Inc P.O. Box 38 Ferdinand IN 47532-0038 *(Affected Party)*									
6		Dale Town Council 606 W Medcalf Dale IN 47523 *(Local Official)*									
7		Mr. John W. Kilmer Bruce Carter Associates 6330 E 75th Street #150 Indianapolis IN 46250 *(Consultant)*									
8		Spencer County Commissioners 200 Main St., Courthouse Rockport IN 47635 *(Local Official)*									
9		Spencer County Health Department Main Street Courthouse, 1st Floor, Room 1 Roackport IN 47635-1492 *(Health Department)*									
10		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 *(Affected Party)*									
11		David Boggs 216 Western Hills Dr Mt Vernon IN 47620 *(Affected Party)*									
12		Donald Rhoads 1000 W Williams Rd Bloomington IN 47404 *(Affected Party)*									
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