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: February 20, 2014

RE: Packaging Corporation of America / 083-34074-00040

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

Notice of Decision: Approval - Registration

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 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires 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
FN-REGIS.dot 6/13/2013

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

Nicole Haynes
Packaging Corporation of America
408 East Saint Clair Street
Vincennes, IN 47591

February 20, 2014

Re: Registration Revision
No. R 083-34074-00040

Dear Ms Haynes:

Packaging Corporation of America was issued a Registration No. R083-26860-00040 on August 25, 2008, for a stationary linerboard and corrugated box manufacturing plant located at 408 East Saint Clair Street, Vincennes, IN. On January 15, 2014, the Office of Air Quality (OAQ) received an application from the source relating to the addition of one (1) part washer and correction of descriptive language. The addition of the new emissions unit to the registration is considered a registration revision, since the potential emissions of regulated pollutants and hazardous air pollutants are less than the ranges specified in 326 IAC 2-5.5-6(d)(10) and 326 IAC 2-5.5-6(d)(12), respectively.

The source shall continue to operate according to 326 IAC 2-5.5. Please find enclosed the revised registration. A copy of the registration is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. 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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Anh Nguyen, at (800) 451-6027, press 0 and ask for Anh Nguyen or extension 3-5334, or dial (317) 233-5334.

Sincerely/Original Signed By:

Tripurari Sinha

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

ACD/clf

Attachment: Revised Registration

cc: File - Knox County
Knox County Health Department
Compliance Branch
IDEM Southwest Regional Office

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

REGISTRATION
OFFICE OF AIR QUALITY

Packaging Corporation of America
408 East Saint Clair Street
Vincennes, Indiana 47591

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. 083-12749-00040	
Original signed by: Paul Dubenetzky, Chief Permits Branch Office of Air Quality	Issuance Date: January 4, 2001

First Registration Revision No. 083-18215-00040, issued on December 11, 2003
First Notice-Only Change No. 083-26587-00040, issued on July 1, 2008
Second Notice-Only Change No. 083-26860-00040, issued on August 25, 2008

Second Registration Revision No. 083-34074-00040	
Issued by: Tripurari Sinha Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: February 20, 2014

SECTION A SOURCE SUMMARY

This registration 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 Registrant 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 Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary linerboard and corrugated box manufacturing plant.

Source Address:	408 East Saint Clair Street, Vincennes, IN 47591
Mailing Address:	408 East Saint Clair Street, Vincennes, IN 47591
General Source Phone Number:	812-886-2464
SIC Code:	2653
County Location:	Knox County
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) One (1) natural gas fired boiler constructed in 1979, designated as BL2, with an input capacity of 13.2 MMBtu/hr and one (1) natural gas fired boiler constructed in 2008, designated as BL3, with an input capacity of 21.0 MMBtu/hr; both BL2 and BL3 exhaust to a stack designated as 001. Under 40 CFR 60, Subpart Dc, this unit is considered an affected source/facility. [40 CFR 60, Subpart Dc] [326 IAC 12]

(b) One (1) starch storage silo constructed in 1997, with a maximum storage capacity of 110,000 pounds, equipped with an integral bin vent filtration system to aid in the reduction of starch lost from the pneumatic loading process, and exhausts to a stack designated as 003.

(c) Five (5) flexographic printing presses, with a total maximum ink usage rate of 17.11 pounds per hour, a total maximum corrugated sheet rate of 18,000 pounds per hour, exhausts through the general ventilation system designated as 002 and maintains the following:

(1) One (1) flexographic die cut press constructed in 1995, designated as 283, with a maximum line speed of 990 ft/min and a maximum printing width of 122 inches.

(2) One (1) flexographic die cut press constructed in 1967, designated as 262, with a maximum line speed of 1050 ft/min and a maximum printing width of 96 inches.

(3) One (1) flexographic press constructed in 1976, designated as 314, with a maximum line speed of 700 ft/min and a maximum printing width of 80 inches.

(4) One (1) flexographic press constructed in 1971, designated as 310, with a maximum line speed of 640 ft/min and a maximum printing width of 78 inches.

(5) One (1) flexographic press constructed in 1975, designated as 330, with a maximum line speed of 550 ft/min and a maximum printing width of 146 inches.

(d) One (1) adhesive/glue application area constructed in1997, with a maximum adhesive/glue usage rate of 18.3 pounds per hour, a maximum printed corrugated sheet rate of 17,100 pounds per hour and exhausts through the general ventilation system designated as 002.

(e) One (1) wax application area constructed in 1997, with a maximum wax usage rate of 20,000 gallons per year, a maximum corrugated sheet rate of 1,800 pounds per hour and exhausts through the general ventilation system designated as 002.

(f) One (1) scrap collection system, with a maximum paper rate of 2,400 pounds per hour, exhausts to a stack designated as 004 and consists of the following:

(1) One (1) integral paper separation cyclone, which collects the scrap and conveys the paper to the baler, an air flow rate of 60,000 cfm and an overall efficiency of 99.9%; and

(2) One (1) baler constructed in 1997.

(g) One (1) flexographic printing press constructed in 1978, designated as 320, with a maximum line speed of 833 ft/min and a maximum printing width of 106 inches.

(h) One (1) small parts washer installed in 2009, maximum capacity of 20 gallons.

SECTION B GENERAL CONDITIONS

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

Terms in this registration 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 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration 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.

B.3 Registration Revocation [326 IAC 2-1.1-9]

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

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(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 registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. 083-34074-00040 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 registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(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 registration.

(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, IN 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.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration 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 Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant 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 Registrant shall implement the PMPs.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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

(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.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant 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).

SECTION D.1 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) One (1) natural gas fired boiler constructed in 1979, designated as BL2, with an input capacity of 13.2 MMBtu/hr and one (1) natural gas fired boiler constructed in 2008, designated as BL3, with an input capacity of 21.0 MMBtu/hr; both BL2 and BL3 exhaust to a stack designated as 001. Under 40 CFR 60, Subpart Dc, this unit is considered an affected source/facility. [40 CFR 60, Subpart Dc] [326 IAC 12]

(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 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3(d) (Particulate Emission Limitations for Sources of Indirect Heating: emission limitations for facilities specified in 326 IAC 6-2-1(b)), the particulate matter (PM) emissions from Boiler BL2 shall in no case exceed 0.8 pounds of particulate matter per million British thermal units heat input.

D.1.2 Particulate Limitations for Sources of Indirect Heating [326 IAC 6-2-2]

Pursuant to 326 IAC 6-2-2 (Particulate Limitations for Sources of Indirect Heating), the particulate matter (PM) emissions from Boiler BL3 shall be limited to 0.435 pounds per MMBtu heat input.

This limitation is based on the following equation:

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

where:

Pt = Allowable Particulate Emission Limitation in pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. (Q = 13.2 + 21.0 = 34.2 MMBtu/hr)

SECTION D.2 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) One (1) starch storage silo constructed in 1997, with a maximum storage capacity of 110,000 pounds, equipped with an integral bin vent filtration system to aid in the reduction of starch lost from the pneumatic loading process, and exhausts to a stack designated as 003.

(b) One (1) scrap collection system, with a maximum paper rate of 2,400 pounds per hour, exhausts to a stack designated as 004 and consists of the following:

(1) One (1) integral paper separation cyclone, which collects the scrap and conveys the paper to the baler, an air flow rate of 60,000 cfm and an overall efficiency of 99.9%; and

(2) One (1) baler constructed in 1997.

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

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2 the particulate emission rate from the starch silo loading/unloading area shall not exceed 1.42 pounds per hour when operating at process weight rate of 411 pounds per hour.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the scrap paper collection system shall not exceed 4.63 pounds per hour when operating at process weight rate of 2400 pounds per hour.

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

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

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

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

Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.2.2 Particulate Control

(a) In order to comply with Condition D.1.3(a), the cyclone for particulate control shall be operated according to manufacturer's specifications and control emissions from the scrap paper collection system at all times the scrap paper collection system (including the bailer) is in operation.

(b) In order to comply with Condition D.1.3(b), the bin vent filtration system for particulate control shall be in operation and control emissions from the starch silo loading/unloading area at all times the starch silo is being loaded and unloaded.

Compliance Monitoring Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.2.3 Filter Inspection

An inspection shall be performed each calendar quarter of all the filters. Defective filters shall be replaced. A record shall be kept of the results of the inspection and the number of filters replaced.

D.2.4 Broken or Failed Filter Detection

In the event that a filter's failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been replaced.

(b) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

Filter failure can be indicated by a significant drop in the filter pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.2.5 Record Keeping Requirements

(a) To document compliance with Condition D.2.3, the Permittee shall maintain records of the results of the inspections required under Condition D.2.3.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(h) One (1) small parts washer installed in 2009, maximum capacity of 20 gallons.

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

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

D.3.1 Volatile Organic Compound (VOC) [326 IAC 8-3]

(a) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), for cold cleaning degreasers constructed after January 1, 1980, 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 (3), (4), (6), and (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) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), for cold cleaning degreasers without remote solvent reservoirs constructed after July 1, 1990, the Permittee 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.

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaner degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteenthousandths(0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

SECTION E.1 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) One (1) natural gas fired boiler constructed in 2008, designated as BL3, with an input capacity of 21.0 MMBtu/hr, and exhausting to stack 001. Under 40 CFR 60, Subpart Dc, this unit is considered an affected source/facility. [40 CFR 60, Subpart Dc] [326 IAC 12]

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

E.1.1 General Provisions Relating to New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart A] [326 IAC 12-1]

Pursuant to 40 CFR 60, the Registrant shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart Dc.

E.1.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc] [326 IAC 12-1]

The Registrant, which engages in linerboard and corrugated box manufacturing, shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A of this permit):

(1) 40 CFR 60.40c
(2) 40 CFR 60.41c
(3) 40 CFR 60.48c(a), (a)(1), (a)(3), (g), (i)

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

REGISTRATION
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Packaging Corporation of America
Address:	408 East Saint Clair Street
City:	Vincennes, IN 47591
Phone Number:	812-886-2464
Registration No.:	083-12749-00040

I hereby certify that Packaging Corporation of America is :

☐ still in operation.

☐ no longer in operation.

I hereby certify that Packaging Corporation of America is :

☐ in compliance with the requirements of Registration No. 083-12749-00040.

☐ not in compliance with the requirements of Registration No. 083-12749-00040.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
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:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration Revision

Source Description and Location

Source Name:	Packaging Corporation of America
Source Location:	408 East Saint Clair Street, Vincennes, IN 47591
County:	Knox County
SIC Code:	2653
Registration No.:	083-12749-00040
Registration Issuance Date:	January 4, 2001
Registration Revision No.:	083-34043-00040
Permit Reviewer:	Anh Nguyen

On January 15, 2014, the Office of Air Quality (OAQ) received an application from Packaging Corporation of America related to the construction and operation of new emission unit and the continued operation of an existing plant.

Existing Approvals

The source was issued Registration No. 083-12749-00040 on January 4, 2001. The source has since received the following approvals:

First Registration Revision No. 083-18215-00040, issued on December 11, 2003
First Notice-Only Change No. 083-26587-00040, issued on July 1, 2008
Second Notice-Only Change No. 083-26860-00040, issued on August 25, 2008

County Attainment Status

The source is located in Knox County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard.[1]
$PM_{2.5}$	Unclassifiable or attainment effective April 5, 2005, for the annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

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

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

Fugitive Emissions

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Status of the Existing Source

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

	Potential To Emit of the Entire Source Prior to Revision (tons/year)*									
Process/ Emission Unit	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Boilers	0.28	1.14	1.14	0.09	14.98	0.82	12.58	0.00	1.3	0.27 Hexane
Cyclone	10.5	10.5	10.5	0.00	0.00	0.00	0.00	0.00		0.00
Starch Silo	1.8	1.8	1.8	0.00	0.00	0.00	0.00	0.00		0.00
Glue Application	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00		0.00
Ink Application	0.00	0.00	0.00	0.00	0.00	4.14	0.00	0.00		0.90 Methanol
Wax Application	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00		0.28
Total PTE of Entire Source	12.6	13.5	13.5	0.1	15.0	6.1	12.6	0.00	1.3	-
Exemptions Levels**	5	5	5	10	10	*5 or* 10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

negl. = negligible
*These emissions are based **The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Packaging Corporation of America on January 15, 2014, relating to the addition of one (1) part washer and correction of descriptive language.

The following is a list of the new emission unit and pollution control device:

(a) One (1) small parts washer installed in 2009, maximum capacity of 20 gallons.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration Revision

The following table is used to determine the appropriate revision level under 326 IAC 2-5.5-6. This table reflects the PTE before controls of the proposed revision.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e	Total HAPs	Worst Single HAP
Parts washers	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00
Total PTE of Proposed Revision	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00
negl. = negligible										

This Registration is being revised through a Registration Revision pursuant to 326 IAC 2-5.5-6(g), because the revision involves the construction of an emission unit(s) with total potential to emit (PTE) (pollutant(s)) less than the thresholds in 326 IAC 2-1.1-3(e)(1) (Exemptions).

PTE of the Entire Source After Issuance of the Registration Revision

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source with the Revision (tons/year)									
	PM	PM10*	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Boilers	0.28	1.14	1.14	0.09	14.98	0.82	12.58	18,085	-	0.27 Hexane
Cyclone	10.5	10.5	10.5	0.00	0.00	0.00	0.00	0.00	-	0.00
Starch Silo	~~0.22~~ **1.8**	~~0.00~~ **1.8**	~~0.00~~ **1.8**	0.00	0.00	0.00	0.00	0.00	-	0.00
Glue Application	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	-	0.00
Ink Application	0.00	0.00	0.00	0.00	0.00	4.14	0.00	0.00	-	0.9 Glycol Ether
Wax Application	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	-	0.29 Glycol Ether
Parts Washers	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.27**	**0.00**	**0.00**	**-**	**0.00**
Total PTE of Entire Source	~~11.0~~ **12.6**	~~11.6~~ **13.5**	~~11.4~~ **13.5**	0.1	15.0	5.8	12.6	**18084.9**	<25	<10
Exemptions Levels	5	5	5	10	10	***5 or*** 10	25	100,000	25	10
Registration Levels	25	25	25	25	25	25	100	100,000	25	10

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant". Calculation derived from Appendix A permit # 083-26587-00040 issued on July 1, 2008
**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units.

Process/ Emission Unit	Potential To Emit of the Entire Source with the Revision (tons/year)									
	PM	PM10*	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Boilers	0.28	1.14	1.14	0.09	14.98	0.82	12.58	18,085	-	0.27 Hexane
Cyclone	10.5	10.5	10.5	0.00	0.00	0.00	0.00	0.00	-	0.00
Starch Silo	1.8	1.8	1.8	0.00	0.00	0.00	0.00	0.00	-	0.00
Glue Application	0.00	0.00	0.00	0.00	0.00	0.51	0.00	0.00	-	0.00
Ink Application	0.00	0.00	0.00	0.00	0.00	4.14	0.00	0.00	-	0.9 Glycol Ether
Wax Application	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	-	0.29 Glycol Ether
Parts Washers	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	-	0.00
Total PTE of Entire Source	12.6	13.5	13.5	0.1	15.0	5.8	12.6	18084.9	<25	<10
Exemptions Levels	5	5	5	10	10	***5 or*** 10	25	100,000	25	10
Registration Levels	25	25	25	25	25	25	100	100,000	25	10

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a "regulated air pollutant".
**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(a) This revision will not change the registration status of the source, because the uncontrolled/unlimited potential to emit of regulated pollutants from the entire source will still be within the ranges listed in 326 IAC 2-5.5-1(b)(1) and the PTE of all other regulated criteria pollutants will still be less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source will still be subject to the provisions of 326 IAC 2-5.5 (Registrations).

(b) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

(c) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit greenhouse gases (GHGs) will still be less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

The federal rules applicable to the existing emission units at this source will not change as a result of this revision.

Compliance Assurance Monitoring (CAM) [40 CFR 64]

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

New Source Performance Standards (NSPS)[40 CFR 60][326 IAC 12]

(b) 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) [326 IAC 20] [40 CFR Part 63]

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability Determination

The state rules applicable to the existing emission units at this source will not change as a result of this revision.

The following state rules are applicable to the proposed revision:

(a) 326 IAC 2-5.5 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.

(b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the *parts washer* is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.

(c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

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

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

(i) 326 IAC 8-3-2 (Cold Cleaner Operations)
The parts washer operation is subject to 326 IAC 8-3-2 (Cold Cleaner Operations). This rule applies to cold cleaner type degreasing facilities constructed after January 1, 1980. The parts washer operation at this source were constructed after 1980: therefore, the requirements of 326 IAC 8-3-2 shall apply to these facilities.

(j) 326 IAC 8-3-8 (Material requirements for cold cleaner degreasers)
The parts washer operation is subject to 326 IAC 8-3-8 (Material requirements for cold cleaner degreasers). Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate the parts washers with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteenthousandths(0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

(h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Proposed Changes

The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

Change 1: permit to include an exempt unit and change descriptive language

A.2 Emission Units and Pollution Control Equipment Summary

...

(c) Five (5) flexographic printing presses, with a total maximum ink usage rate of 17.11 pounds per hour, a total maximum corrugated sheet rate of 18,000 pounds per hour, exhausts through the general ventilation system designated as 002 and maintains the following:

(1) One (1) flexographic **die cut** press constructed in 1995, designated as 283, with a maximum line speed of 990 ft/min and a maximum printing width of 122 inches.

(2) One (1) flexographic **die cut** press constructed in 1967, designated as 262, with a maximum line speed of 1050 ft/min and a maximum printing width of 96 inches.

...

(h) One (1) small parts washer installed in 2009, maximum capacity of 20 gallons.

…

SECTION D.3 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(h) One (1) small parts washer installed in 2009, maximum capacity of 20 gallons.

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

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

D.3.1 Volatile Organic Compound (VOC) [326 IAC 8-3]

(a) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating

Requirements), for cold cleaning degreasers constructed after January 1, 1980, 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 (3), (4), (6), and (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) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), for cold cleaning degreasers without remote solvent reservoirs constructed after July 1, 1990, the Permittee 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.

D.3.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaner degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteenthousandths(0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

Change 2: Starch Silo capacity changes

SECTION D.2 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

(a) One (1) starch storage silo constructed in 1997, with a maximum storage capacity of 110,000 pounds, equipped with an integral bin vent filtration system to aid in the reduction of

starch lost from the pneumatic loading process, and exhausts to a stack designated as 003.

(b) ...

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

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Particulate [326 IAC 6-3-2]

(a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the starch silo loading/unloading area shall not exceed ~~1.39~~ **1.42** pounds per hour when operating at process weight rate of ~~397~~ **411** pounds per hour.

(b) ....

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on January 15, 2014.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed Registration Revision No. 083-34074-00040. The staff recommends to the Commissioner that this Registration Revision be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Anh Nguyen at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-5334 or toll free at 1-800-451-6027 extension 3-5334.

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

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

Appendix A: Emissions Calculations
Summary Emissions

Company Name: Packaging Corporation of America
Address: 408 E. Clair Street, Vincennes, Indiana
Registration: 083-26587-00040
Date Issued: 1/4/2001
Registration Revision: 083-34074-00040
Reviewer: Anh Nguyen
Date: 12/27/13

Potential to Emit (Tons/Year)

									Single HAPs					
Activity Type	**PM**	**PM-10**	**PM-10**	**SO2**	**VOC**	**CO**	**NOx**	CO2e	**Glycol Ether**	**Methanol**	**Formaldehyde**	**Hexane**	**Total HAPs**	
Boilers	0.28	1.14	1.14	0.09	0.82	12.58	14.98	18,085	-	-	-	0.27		
Cyclone	10.5	10.5	10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Starch Silo	1.80	1.80	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Glue Application	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Ink Application	0.00	0.00	0.00	0.00	4.14	0.00	0.00	0.00	0.90	0.00	0.00	0.00		
Wax Application	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.29	0.001	0.004	-		
Parts Washers	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00		New
Total	**12.6**	**13.5**	**13.5**	**0.1**	**6.1**	**12.6**	**15.0**	**18084.9**	**1.2**	**0.0**	**0.0**	**0.3**	**1.5**	

Single HAPs Worst Case = Glycol Ether at 1.2 tons/year
Total HAPs Worst Case = 1.5 tons/year

Wax Application HAPs Total = 0.3

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

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Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
13.2	115.6

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.4	0.0	5.8	0.3	4.9

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 3

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

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

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Reviewer: Anh Nguyen

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenze 1.2E-03	Formaldehyd 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.214E-04	6.938E-05	0.00	0.10	1.966E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.891E-05	6.360E-05	8.094E-05	2.197E-05	1.214E-04

Methodology is the same as previous

Total 0.11

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		
Emission Factor in lb/MMcf	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	6,938	0	0
Summed Potential Emissions in tons/yr	6,938		
CO2e Total in tons/yr	6,980		

Emission (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Potential Emission CO2e (tons/yr) = Potential Emission CO2 * GWP + Potential Emission CH4 * GWP + Potential Emission N2O * GWP
Greenhouse Warming Potentials (GWP) based upon Table A-1 of 40 CFR Part 98, Subpart A
CO_2e = CO_2 equivalents
GWP = 1 for CO2, 21 for CH4, and 310 for N2O

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Date: 12/27/13

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
21.0	184.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.2	0.7	0.1	9.2	0.5	7.7

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

Where:

Pt = Allowable Particulate Emission Limitation in pounds of particulate matteremitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. (Q = 13.2 + 21.0 = 34.2 MMBtu/hr)

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

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Natural Gas Combustion Only
MM BTU/HR <100
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Date: 12/27/13

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenz 1.2E-03	Formaldehyd 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.932E-04	1.104E-04	0.01	0.17	3.127E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.599E-05	1.012E-04	1.288E-04	3.495E-05	1.932E-04

Methodology is the same as previous

Total 0.17

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		
Emission Factor in lb/MMcf	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	11,038	0	0
Summed Potential Emissions in tons/yr	11,038		
CO2e Total in tons/yr	11,105		

Emission (tons/yr) = Potential Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Potential Emission CO2e (tons/yr) = Potential Emission CO2 * GWP + Potential Emission CH4 * GWP + Potential Emission N2O * GWP
Greenhouse Warming Potentials (GWP) based upon Table A-1 of 40 CFR Part 98, Subpart A
CO_2e = CO_2 equivalents
GWP = 1 for CO2, 21 for CH4, and 310 for N2O

Appendix A: Emissions Calculations
Starch

Company Name: Packaging Corporation of America
Address: 408 E. Clair Street, Vincennes, Indiana
Registration: 083-26587-00040
Date Issued: 1/4/2001
Registration Revision: 083-34074-00040
Reviewer: Anh Nguyen
Date: 12/27/13

Corn Starch Storage Silo:

Storage Capacity	110,000	lb			
Corn Starch Loading Rate	50,000	lb/hr			
***Corn Starch Loading Rate	3,600,000	lb/yr			
Corn Starch Loading Rate (PWR)	1,800	ton/yr =	0.21	tons/hr =	411 lb/hr
Assumed Control Efficiency	99.90	%			

PM Emissions:

**Uncontrolled PM Emission Factor	2.0	lb/ton starch loaded	
*Controlled PM Emission Factor	0.0014	lb/ton starch loaded (controlled)	
Controlled Potential PM/PM!10/PM2.5 Emissions (1)	2.52	lb/yr	
Controlled Potential PM/PM!10/PM2.5 Emissions (2)	0.001	ton/yr	
Uncontrolled Potential PM/PM!10/PM2.5 Emissions (3)	1.80	ton/yr	6-3-2 E = 4.10 P^0.67
Uncontrolled Potential PM/PM!10/PM2.5 Emissions (3)	0.00	lb/hr	1.42 lbs/hr

Notes:

*Controlled PM emission factor for starch handling taken from Fire Version 6.25, SCC# 3-02-014-07
**Uncontrolled PM emission factor is the worst-case scenario emission factor provided by IDEM
***Although the facility loads at maximum only 3 hours per month, 6 hours was used as a worst case scenario.
PWR= process weight rate

Methodology:

(1) Controlled Potential PM Emissions [lb/yr] = Corn Starch Loading Rate [ton/yr] x PM Controlled Emission Factor [lb/ton starch loaded]
(2) Controlled Potential PM Emissions [ton/yr] = Controlled Potential PM Emissions [lb/yr] / 2,000 [lb/ton]
(3) Uncontrolled Potential PM Emissions [lb/yr] = Corn Starch Loading Rate [ton/yr] x PM Uncontrolled Emission Factor [lb/ton starch loaded]

Appendix A: Emissions Calculations
Parts Washer

Company Name: Packaging Corporation of America
Address: 408 E. Clair Street, Vincennes, Indiana
Registration: 083-26587-00040
Date Issued: 1/4/2001
Registration Revision: 083-34074-00040
Reviewer: Anh Nguyen
Date: 12/27/13

Emission Unit	Max Annual Solvent Usage (gal/yr)	Solvent Density (lbs/gal)	Volatile Content (%)	PTE VOC (t/yr)	HAP content
Part washer	80	6.7	100%	0.268	NA
Total				0.268	

* There is 1 part washer in the facilty. It uses Safety Kleen solvent with max capacity of 20 gallons. Part washer recycles and reuses solvent

Methodology
Product density = specific gravity * 8.34 Lbs/gal
solvent density = supplies by MSDS
Volatile Content % = supplies by MSDS
PTE VOC = Max Annual Solvent Usage (gal/yr) * Solvent Density (lbs/gal) * Volatile Content (%) /2000(lbs/ton)

Appendix A: Emissions Calculations

Ink

Company Name: Packaging Corporation of America
Address: 408 E. Clair Street, Vincennes, Indiana
Registration: 083-26587-00040
Date Issued: 1/4/2001
Registration Revision: 083-34074-00040
Reviewer: Anh Nguyen
Date: 12/27/13

	Max Theoretical ink usage	180,000	lbs/yr
	Max Voc Content	4.60%	
	Max. Glycol Ether content	1.00%	
	PTE VOC emissions	0.95	lbs/hr
		22.68	lbs/day
VOC		4.14	tpy
	PTE Glycol Ether *	0.21	lb/hr
		4.93	lbs/day
HAP		0.90	tpy

* MSDS

Methodology

PTE for VOC and HAP

(lbs/hr) = Max Theoretical ink usage l(bs/yr) * Max Voc Content (%) / 8760(hr/yr)

lbs/day = (lbs/hr) * 24 (hr/day)

tpy = (lbs/hr) * 8760 (hr/yr) / 2000 (lbs/ton)

Appendix A: Emissions Calculations

Glue /Adhesive

Company Name: Packaging Corporation of America
Address: 408 E. Clair Street, Vincennes, Indiana
Registration: 083-26587-00040
Date Issued: 1/4/2001
Registration Revision: 083-34074-00040
Reviewer: Anh Nguyen
Date: 12/27/13

Max Theoretical glue usage	160,000	lbs/yr
Max Voc Content	0.0584	lbs/gal
Weight per gallon	9.20	lbs/gal
PTE VOC emissions	0.12	lbs/hr
	2.78	lbs/day
	1016	lbs/yr
	0.51	tpy

Note:
Glue /Adhesives from source do not contain federally regulated HAPs

Methodology

PTE for VOC and HAP

(lbs/hr) = Max Theoretical glueusage l(bs/yr) * Max Voc Content (%) / 8760(hr/yr)

lbs/day = (lbs/hr) * 24 (hr/day)

tpy = (lbs/hr) * 8760 (hr/yr) / 2000 (lbs/ton)

Appendix A: Emissions Calculations
Scrap Paper

Company Name: **Packaging Corporation of America**
Address: **408 E. Clair Street, Vincennes, Indiana**
Registration: **083-26587-00040**
Date Issued: **1/4/2001**
Registration Revision: **083-34074-00040**
Reviewer: **Anh Nguyen**
Date: **12/27/13**

Note : 60,000 **CFM**
0.10% of paper scrap (assumed PM)
2600 tons of scrap annually
Max Operating capacity 2400 lbs/hr paper scrap =

Process Wgt Rate	6-3-2	
1.2 tons/hr	4.63	lbs/hr

process weight rate up to 60,000 pounds per hour

PM emissions = 2400 (lbs/hr) * 0.1% = 2.4 lbs/hr
2.4 (lbs/hr) * 24 (hrs/day) 57.6 lbs/day
2.4 (lbs/hr) *8760 (hrs/yr) /2000 (lbs/tons 10.5 tons/yr

Note:
* 99.9 % of paper/scrap is assumed to be captured by the cyclone and conveyed to the baler

6-3-2 E = 4.10 P^0.67 where
E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Appendix A: Emissions Calculations

Wax

Company Name: **Packaging Corporation of America**
Address: **408 E. Clair Street, Vincennes, Indiana**
Registration: **083-26587-00040**
Date Issued: **1/4//2001**
Registration Revision: **083-34074-00040**
Reviewer: **Anh Nguyen**
Date: **12/27/13**

		% by weight								
	Polymer Latex		8.7	lbs/gal						
	Max Theoretical wax usage =		20,000	Gal/yr =	174000	lbs/yr				
	Max VOC Content	0.38%								
	Max VOC emissions		0.08	lbs/hr	1.81	lbs/day	661.20	lbs/yr	0.33	tons/yr
	Formaldehyde Emissions	0.004%	0.0008	lbs/hr	0.02	lbs/day	6.96	lbs/yr	0.00	tons/yr
HAPS *	Methanol	0.001%	0.0002	lbs/hr	0.00	lbs/day	1.74	lbs/yr	0.00	tons/yr
	diethanol glycol monobutyl ether	0.333%	0.0661	lbs/hr	1.59	lbs/day	579.42	lbs/yr	0.29	tons/yr

Note:
* Informationsupply by the wax supplier

Methodology

PTE for VOC and HAP

(lbs/hr) = Max Theoretical ink usage l(bs/yr) * Max Voc Content (%) / 8760(hr/yr)

lbs/day = (lbs/hr) * 24 (hr/day)

tpy = (lbs/hr) * 8760 (hr/yr) / 2000 (lbs/ton)

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

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

TO: Nicole Haynes
Packaging Corporation of America
408 East Saint Clair Street
Vincennes, IN 47591

DATE: February 20, 2014

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

SUBJECT: Final Decision
Registration Revision
083-34074-00040

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:
Max Marley, General Manager
Andrea Swanson, Cornerstone Environmental
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.

Mail Code 61-53

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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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1		Nicole Haynes Packaging Corporation of America 408 E St Clair St Vincennes IN 47591 (Source CAATS) Confirmed Delivery									
2		Max Marley General Manager Packaging Corporation of America 408 E St Clair St Vincennes IN 47591 *(RO CAATS)*									
3		Knox County Health Department 520 S. 7th Street Vincennes IN 47591-1038 *(Health Department)*									
4		Knox County Commissioners 111 Washington Ave Vincennes IN 47591 *(Local Official)*									
5		Vincennes City Council and Mayors Office 203 Vigo Street Vincennes IN 47591 *(Local Official)*									
6		Mr. Mark Wilson Evansville Courier & Press P.O. Box 268 Evansville IN 47702-0268 *(Affected Party)*									
7		Ms. Andrea Swanson Cornerstone Environmental 880 Lennox Ct Zionsville IN 46077 *(Consultant)*									
8		John Blair 800 Adams Ave Evansville IN 47713 *(Affected Party)*									
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