



## 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](http://www.idem.IN.gov)

Michael R. Pence  
Governor

Thomas W. Easterly  
Commissioner

TO: Interested Parties / Applicant

DATE: November 19, 2013

RE: Hostess Brands, LLC / 097 - 33526 - 00170

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



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## REGISTRATION OFFICE OF AIR QUALITY

**Hostess Brands, LLC  
2929 North Shadeland Avenue  
Indianapolis, Indiana 46219**

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. R097-33526-00170	
Issued by:  Jason R. Krawczyk, Section Chief Permits Branch Office of Air Quality	Issuance Date: November 19, 2013

## 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

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The Registrant owns and operates a stationary source manufacturing unleavened bakery bread products.

Source Address:	2929 North Shadeland Avenue, Indianapolis, Indiana 46219
General Source Phone Number:	317-541-8636
SIC Code:	2051 (Bread and Other Bakery Products, Except Cookies and Crackers)
County Location:	Marion County (Warren Township)
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Registration

### A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired fryer, identified as Fryer 1, constructed in 1985, exhausting to stack FA, rated at 0.76 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (b) One (1) natural gas-fired fryer, identified as Fryer 2, constructed in 1987, exhausting to stack FB, rated at 0.84 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (c) One (1) natural gas-fired fryer, identified as Fryer 3, approved for construction in 2013, exhausting to stack FC, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (d) One (1) natural gas-fired fryer, identified as Fryer 4, approved for construction in 2013, exhausting to stack FD, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (e) One (1) natural gas-fired muffin oven, identified as Muffin Oven #1, constructed in 1969, exhausting to stacks M1-A, M1-B and M1-C, rated at 3.0 million Btu per hour, throughput capacity: 5,400 pounds per hour.
- (f) One (1) natural gas-fired muffin oven, identified as Muffin Oven #2, constructed in 1991, exhausting to stacks M2-A, M2-B and M3-C, rated at 6.0 million Btu per hour, throughput capacity: 6,000 pounds per hour.
- (g) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour identified as:
  - (1) Boiler #1, exhausting through stack BE and constructed in 1985, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3,000 pounds of steam production per hour.
  - (2) Boiler #2, exhausting through stack BW and constructed in 1986, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3,000 pounds of steam production per hour.

- (3) Pan Washer 1, exhausting to stacks NWE, NWM, and NWW and constructed in 1969, rated at 3.8 million Btu per hour.
  - (4) Pan Washer 2, exhausting to stacks SWE, SWM, and SWW and constructed in 1991, rated at 3.8 million Btu per hour.
  - (5) All space heaters, exhausting to the building and constructed in 1985 and before, at a combined heat input rate of 5.0 million Btu per hour.
- (h) Package printers utilizing VOC/HAP solutions in Ink Jet Coder sprays for labeling packages with a maximum usage rate of 0.027 gallons/hour exhausting inside the building.
- (i) The following miscellaneous storage tanks, all venting inside the building, each with a capacity less than 8,000 gallons:
  - (1) Two (2) palm oil storage tanks constructed in 1985 and 1987, capacity: 4,000 gallons each;
  - (2) One (1) used palm oil storage tank constructed in 1987, capacity: 1,500 gallons;
  - (3) Two (2) canola oil storage tanks constructed in 1969 and 1991, capacity: 4,000 gallons each;
  - (4) One (1) margarine storage tank constructed in 1969, capacity: 5,700 gallons; and
  - (5) One (1) soy oil storage tank constructed in 1969, capacity: 5,700 gallons.
- (j) Dough mixing and flour and sugar pneumatic transferring designated as Emission Unit ID Transfer Points. A total of thirty eight (38) transfer points are controlled by twenty two (22) baghouses or cartridge filters and sixteen (16) breather bag sock filters each with an internal exhaust. Each control device has been determined as integral to the system. Each filter has a design controlled exhaust rate of less than 0.02 gr/dscf. Each baghouse or cartridge filter has a rated exhaust air flow rate of 600 acfm.
- (k) Gluing Operation consisting of the following units, all venting inside the building:
  - (1) Glue unit No. 1, identified as GLU-1, constructed in 1969, with a capacity of 210 packages per hour.
  - (2) Glue unit No. 2, identified as GLU-2, constructed in 1991, with a capacity of 210 packages per hour.
  - (3) Glue unit No. 3, identified as GLU-3, constructed in 2013, with a capacity of 350 packages per hour.
  - (4) Glue unit No. 4, identified as GLU-4, constructed in 2013, with a capacity of 350 packages per hour.
  - (5) Glue unit No. 5, identified as GLU-5, constructed in 2013, with a capacity of 3,600 packages per hour.
  - (6) Glue unit No. 6, identified as GLU-6, constructed in 2013, with a capacity of 3,600 packages per hour.

## **SECTION B GENERAL CONDITIONS**

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

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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]**

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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]**

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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 IDEM 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]**

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- (a) All terms and conditions of permits established prior to Registration No. R097-33526-00170 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)]**

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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)]**

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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)]**

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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]**

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- (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
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### 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 thirty percent (30%) 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 fryer, identified as Fryer 1, constructed in 1985, exhausting to stack FA, rated at 0.76 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (b) One (1) natural gas-fired fryer, identified as Fryer 2, constructed in 1987, exhausting to stack FB, rated at 0.84 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (c) One (1) natural gas-fired fryer, identified as Fryer 3, approved for construction in 2013, exhausting to stack FC, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (d) One (1) natural gas-fired fryer, identified as Fryer 4, approved for construction in 2013, exhausting to stack FD, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (e) One (1) natural gas-fired muffin oven, identified as Muffin Oven #1, constructed in 1969, exhausting to stacks M1-A, M1-B and M1-C, rated at 3.0 million Btu per hour, throughput capacity: 5,400 pounds per hour.
- (f) One (1) natural gas-fired muffin oven, identified as Muffin Oven #2, constructed in 1991, exhausting to stacks M2-A, M2-B and M3-C, rated at 6.0 million Btu per hour, throughput capacity: 6,000 pounds per hour.
- (g) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour identified as:
  - (1) Boiler #1, exhausting through stack BE and constructed in 1985, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3000 pounds of steam production per hour.
  - (2) Boiler #2, exhausting through stack BW and constructed in 1986, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3000 pounds of steam production per hour.
  - (3) Pan Washer 1, exhausting to stacks NWE, NWM, and NWW and constructed in 1969, rated at 3.8 million Btu per hour.
  - (4) Pan Washer 2, exhausting to stacks SWE, SWM, and SWW and constructed in 1991, rated at 3.8 million Btu per hour.
  - (5) All space heaters, exhausting to the building and constructed in 1985 and before, at a combined heat input rate of 5.0 million Btu per hour.
- (h) Package printers utilizing VOC/HAP solutions in Ink Jet Coder sprays for labeling packages with a maximum usage rate of 0.027 gallons/hour exhausting inside the building.

(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.1.1 Particulate Matter Limitations [326 IAC 6.5]**

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- (a) Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the four (4) fryers, two (2) muffin ovens, space heaters, two (2) pan washers, and package printers shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.
- (b) Pursuant to 326 IAC 6.5-1-2(b)(3), the particulate matter emissions from each of the two (2) boilers shall not exceed one-hundredth (0.01) gram per dry standard cubic foot (dscf) each.

**D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]**

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A Preventive Maintenance Plan is required for these facilities and any associated control devices. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

## SECTION D.2

## OPERATION CONDITIONS

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

- (j) Dough mixing and flour and sugar pneumatic transferring designated as Emission Unit ID Transfer Points. A total of thirty eight (38) transfer points are controlled by twenty two (22) baghouses or cartridge filters and sixteen (16) breather bag sock filters each with an internal exhaust. Each control device has been determined as integral to the system. Each filter has a design controlled exhaust rate of less than 0.02 gr/dscf. Each baghouse or cartridge filter has a rated exhaust air flow rate of 600 acfm.

(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 Matter Limitations [326 IAC 6.5]

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from the emission unit ID Transfer Points, specifically the muffin flour silo receiving, muffin flour excess returned, granulated sugar silo receiving, granulated sugar sifter to grinder bin, granulated sugar sifter into use bin, and granulated sugar return to use bin, shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

#### D.2.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the ingredient storage and conveying units, identified as Transfer Points and its control devices. Section B - Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

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

#### D.2.3 Particulate Matter (PM)

In order to ensure compliance with the Condition of D.2.1, the baghouses, cartridge filters, and breather bag socks, shall be in operation and control emission from Transfer Points, at all times Transfer Points process is in operation.

**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).

<b>Company Name:</b>	Hostess Brands, LLC
<b>Address:</b>	2929 North Shadeland Avenue
<b>City:</b>	Indianapolis, Indiana 46217
<b>Phone Number:</b>	317-541-8636
<b>Registration No.:</b>	097-33526-00170

I hereby certify that Hostess Brands, LLC is :

- ☐ still in operation.
- ☐ no longer in operation.
- ☐ in compliance with the requirements of Registration No. 097-33526-00170.
- ☐ not in compliance with the requirements of Registration No. 097-33526-00170.

I hereby certify that Hostess Brands, LLC is :

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Phone Number:</b>
<b>Date:</b>

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.

<b>Noncompliance:</b>

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

**Technical Support Document (TSD) for a FESOP Transitioning to a  
Registration**

<b>Source Description and Location</b>
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<b>Source Name:</b> <b>Source Location:</b> <b>County:</b> <b>SIC Code:</b>  <b>Registration No.:</b> <b>Permit Reviewer:</b>	<b>Hostess Brands, LLC</b> <b>2929 North Shadeland Avenue, Indianapolis, IN 46219</b> <b>Marion (Warren Township)</b> <b>2051 (Bread and Other Bakery Products, Except Cookies and Crackers)</b>  <b>R097-33526-00170</b> <b>Tamera Wessel</b>
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On May 6, 2013, the Office of Air Quality (OAQ) received an application from Hostess Brands, LLC related to the construction and operation of new emission units at an existing stationary source manufacturing unleavened bakery bread products and transition from a FESOP to a Registration.

<b>Existing Approvals</b>
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Since the issuance of FESOP Renewal No. F097-14984-00170 on January 26, 2004, the source has been operating under the following additional approvals including, but not limited to, the following:

- (a) FESOP - Administrative Amendment No. 097-18812-00170, issued on July 16, 2004.
- (b) FESOP - Administrative Amendment No. 097-25733-00170, issued on December 27, 2007.
- (c) FESOP - Administrative Amendment No. 097-27778-00170, issued on April 29, 2009.
- (d) FESOP - Administrative Amendment No. 097-25733-00170, issued on May 8, 2013.

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

### County Attainment Status

The source is located in Marion County (Warren Township).

Pollutant	Designation
SO <sub>2</sub>	Non-attainment effective October 4, 2013, for the Center, Perry, and Wayne Twp. The remainder of Marion County is unclassifiable or attainment effective.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11 <sup>th</sup> Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O <sub>3</sub>	Attainment effective November 8, 2007, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.
<sup>1</sup> Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005. Unclassifiable or attainment effective federally July 11, 2013, for PM <sub>2.5</sub> .	

- (a) **Ozone Standards**  
Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) 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<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM<sub>2.5</sub>**  
Marion County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> 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<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective June 28, 2011. Therefore, direct PM<sub>2.5</sub>, SO<sub>2</sub>, and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**  
Marion County (Warren Township) 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 2-5.5 (Registrations) applicability.

### Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Hostess Brands, LLC on May 7, 2013, relating to the transition from a Federally Enforceable State Operating Permit (FESOP) to a Registration for an existing stationary source manufacturing unleavened bakery bread products.

The source consists of the following permitted emission units:

- (a) One (1) natural gas-fired fryer, identified as Fryer 1, constructed in 1985, exhausting to stack FA, rated at 0.76 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (b) One (1) natural gas-fired fryer, identified as Fryer 2, constructed in 1987, exhausting to stack FB, rated at 0.84 million Btu per hour, throughput capacity: 2,000 pounds per hour.
- (c) One (1) natural gas-fired fryer, identified as Fryer 3, approved for construction in 2013, exhausting to stack FC, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (d) One (1) natural gas-fired fryer, identified as Fryer 4, approved for construction in 2013, exhausting to stack FD, rated at 1.0 million Btu per hour, throughput capacity: 2,800 pounds per hour.
- (e) One (1) natural gas-fired muffin oven, identified as Muffin Oven #1, constructed in 1969, exhausting to stacks M1-A, M1-B and M1-C, rated at 3.0 million Btu per hour, throughput capacity: 5,400 pounds per hour.
- (f) One (1) natural gas-fired muffin oven, identified as Muffin Oven #2, constructed in 1991, exhausting to stacks M2-A, M2-B and M3-C, rated at 6.0 million Btu per hour, throughput capacity: 6,000 pounds per hour.
- (g) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour identified as:
  - (1) Boiler #1, exhausting through stack BE and constructed in 1985, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3000 pounds of steam production per hour.
  - (2) Boiler #2, exhausting through stack BW and constructed in 1986, rated at a maximum capacity of four and two tenths (4.2) million Btu per hour and 3000 pounds of steam production per hour.
  - (3) Pan Washer 1, exhausting to stacks NWE, NWM, and NWW and constructed in 1969, rated at 3.8 million Btu per hour.
  - (4) Pan Washer 2, exhausting to stacks SWE, SWM, and SWW and constructed in 1991, rated at 3.8 million Btu per hour.
  - (5) All space heaters, exhausting to the building and constructed in 1985 and before, at a combined heat input rate of 5.0 million Btu per hour.
- (h) Package printers utilizing VOC/HAP solutions in Ink Jet Coder sprays for labeling packages with a maximum usage rate of 0.027 gallons/hour exhausting inside the building.
- (i) The following miscellaneous storage tanks, all venting inside the building, each with a capacity less than 8,000 gallons:
  - (1) Two (2) palm oil storage tanks constructed in 1985 and 1987, capacity: 4,000 gallons each;

- (2) One (1) used palm oil storage tank constructed in 1987, capacity: 1,500 gallons;
  - (3) Two (2) canola oil storage tanks constructed in 1969 and 1991, capacity: 4,000 gallons each;
  - (4) One (1) margarine storage tank constructed in 1969, capacity: 5,700 gallons; and
  - (5) One (1) soy oil storage tank constructed in 1969, capacity: 5,700 gallons.
- (j) Dough mixing and flour and sugar pneumatic transferring designated as Emission Unit ID Transfer Points. A total of thirty eight (38) transfer points are controlled by twenty two (22) baghouses or cartridge filters and sixteen (16) breather bag sock filters each with an internal exhaust. Each control device has been determined as integral to the system. Each filter has a design controlled exhaust rate of less than 0.02 gr/dscf. Each baghouse or cartridge filter has a rated exhaust air flow rate of 600 acfm.
- (k) Gluing operation consisting of the following units, all venting inside the building:
- (1) Glue unit No. 1, identified as GLU-1, constructed in 1969, with a capacity of 210 packages per hour.
  - (2) Glue unit No. 2, identified as GLU-2, constructed in 1991, with a capacity of 210 packages per hour.
  - (3) Glue unit No. 3, identified as GLU-3, constructed in 2013, with a capacity of 350 packages per hour.
  - (4) Glue unit No. 4, identified as GLU-4, constructed in 2013, with a capacity of 350 packages per hour.
  - (5) Glue unit No. 5, identified as GLU-5, constructed in 2013, with a capacity of 3,600 packages per hour.
  - (6) Glue unit No. 6, identified as GLU-6, constructed in 2013, with a capacity of 3,600 packages per hour.

<b>Emission Units and Pollution Control Equipment Removed From the Source</b>
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The source has removed the following emission units:

- (a) One (1) Baker-Perkins Bakery Bread Oven # 3 identified as Emission Unit ID Oven # 3 exhausting to two (2) stacks/vents identified as Stack/Vent ID BD-A (Front Stack) and BD-C (Rear Stack). Equipped with natural gas fired oven heating at a maximum natural gas heat input rate of 6.1 million Btu per hour. Includes the application of Oven chain lubrication for Emission Unit ID Oven # 3 and Emission Unit ID Oven # 4. Installation date of 1982.
- (b) One (1) Baker-Perkins Bakery Bun Oven # 4 identified as Emission Unit ID Oven # 4 exhausting to two (2) stacks/vents identified as Stack/Vent ID BN-A (Front Stack) and BN-B (Rear Stack). Equipped with natural gas fired oven heating at a maximum natural gas heat input rate of 3.0 million Btu per hour. Includes the application of Oven chain lubrication for Emission Unit ID Oven # 4 and Emission Unit ID Oven # 3. Installation date of 1968.
- (c) Natural Gas-fired Boil Tank, exhausting to the building and constructed in 1985, rated at 1.0 million Btu per hour.

#### **“Integral Part of the Process” Determination**

The source submitted the following justification such that the pneumatic transfer baghouses, cartridge filters and breather bag sock filters are to be considered as an integral part of bakery products manufacturing:

- (1) Control equipment is necessary to pneumatically transfer flour and sugar throughout the source in a manner consistent with Federal food products manufacturing industry standards. Recovered baghouse catch material is recycled on-site in the process.
- (2) All control equipment exhaust is vented inside the building with no direct exhaust to the outside air.
- (3) Controlled PM/PM10 emissions for each filtration unit is less than 0.02 gr/dscf at a design exhaust flow rate of 600 acfm.

IDEM, OAQ has evaluated the justifications and agrees that the baghouses, cartridge filters, and breather bag sock filters controlling the pneumatic transfer and storage of flour and sugar should be considered an integral part of bakery operations. Therefore, the permitting level will be determined using the potential to emit after the baghouses, cartridge filters, and breather bag sock filters. Operating conditions in the proposed permit will specify that the baghouses, cartridge filters, and breather bag sock filters controlling the pneumatic transfer and storage of flour and sugar shall be in operation at all times when the bakery is in operation. This determination was initially made under FESOP No.: F097-7413-00170, issued December 12, 1997.

#### **Enforcement Issues**

There are no pending enforcement actions related to this source.

#### **Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

#### **Permit Level Determination – Registration**

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



Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5*	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
Muffin Oven #1	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 Hexane
Muffin Oven #2	0.05	0.20	0.20	0.02	2.58	0.14	2.16	3,111	0.05	0.05 Hexane
Fryer #1	2.46	3.52	3.52	Negl.	0.33	0.39	0.27	394	0.01	0.01 Hexane
Fryer #2	2.46	3.53	3.53	Negl.	0.36	0.39	0.30	435	0.01	0.01 Hexane
Fryer #3	4.92	4.94	4.94	Negl.	0.43	0.54	0.36	518	0.01	0.01 Hexane
Fryer #4	4.92	4.94	4.94	Negl.	0.43	0.54	0.36	518	0.01	0.01 Hexane
Natural Gas Combustion	0.13	0.51	0.51	0.04	6.70	0.37	5.63	8,088	0.13	0.12 Hexane
Ingredient Storage & Conveying	7.02	1.99	1.99	-	-	-	-	-	-	-
Printing	-	-	-	-	-	1.64	-	-	0.64	0.64 Methanol
Glues	-	-	-	-	-	11.20	-	-	-	-
Storage Tanks	-	-	-	-	-	0.01	-	-	-	-
Fugitive Emissions										
Paved Roads	0.61	0.12	0.03	-	-	-	-	-	-	-
<b>Total PTE of Entire Source</b>	<b>22.57</b>	<b>19.85</b>	<b>19.75</b>	<b>0.08</b>	<b>12.11</b>	<b>15.30</b>	<b>10.17</b>	<b>14,620</b>	<b>0.86</b>	<b>0.64 Methanol</b>
Exemptions Levels**	< 5	< 5	< 5	< 10	< 10	< 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 <sub>2</sub> e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.										

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of PM, PM10, PM2.5, NO<sub>x</sub>, and VOC are within the ranges listed in 326 IAC 2-5.5-1(b)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.5 (Registrations). A Registration will be issued.
- (b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

<b>Federal Rule Applicability Determination</b>
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New Source Performance Standards (NSPS)

- (a) The requirements of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60, Subpart Db (326 IAC 12), are not included in the permit, since Boiler #1 and Boiler #2 each has a heat input capacity of less than 100 million Btu per hour.
- (b) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units 40 CFR 60, Subpart Dc (326 IAC 12), are not included in the permit, since Boiler #1 and Boiler #2 each has a heat input capacity of less than 10 million Btu per hour and each boiler was constructed prior to June 9, 1989.
- (c) The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR 60.110b, Subpart, Kb, 326 IAC 12) are not included for the one (1) canola oil storage tank (constructed in 1969), one (1) margarine storage tank, and/or one (1) soy oil storage tank, because each tank was constructed prior to July 23, 1984.  
  
The requirements of the New Source Performance Standard for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR 60.110b, Subpart, Kb, 326 IAC 12) are not included for the two (2) palm oil storage tanks, one (1) used palm oil storage tank, and/or one (1) canola oil storage tank (constructed in 1991) because each tank has a capacity less than seventy-five (75) cubic meters (19,800 gallons).
- (d) The requirements of the New Source Performance Standard for the Graphic Arts Industry: Publication Rotogravure Printing (40 CFR 60.430, Subpart QQ, 326 IAC 12) are not included in the permit because the package printers at the source are not publication rotogravure printing presses as defined in 40 CFR 60.431.
- (e) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (326 IAC 20-1), are not included in the permit, since the source is not a major source of HAPs.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63.11193, Subpart JJJJJJ, are not included in the permit, since the natural gas-fired boilers are gas-fired boilers as defined in 40 CFR 63.11237, which are specifically exempted from this rule under 40 CFR 63.11195(e).
- (h) The requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAPs) for the Printing and Publishing Industry, 40 CFR 63.820, Subpart KK (326 IAC 20-18), are not included in the permit because this source is not a major source of hazardous air pollutants (HAPs).
- (i) The requirements of the NESHAP for National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles, 40 CFR 63.4280, Subpart OOOO

(326 IAC 20-77), are not included in the permit because this source is not a major source of hazardous air pollutants (HAPs) and does not perform printing, coating, and/or dyeing of fabrics or other textiles.

- (j) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

#### Compliance Assurance Monitoring (CAM)

- (k) 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.

<b>State Rule Applicability Determination</b>
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The following state rules are applicable to the source:

- (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 potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.
- (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)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
- (1) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (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.
- (f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

- (g) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)  
Pursuant to 326 IAC 7-1.1-1, each of the emission units at this source is not subject to the requirements of 326 IAC 7-1.1, since each has unlimited sulfur dioxide (SO<sub>2</sub>) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.
- (h) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.
- (i) 326 IAC 8-6-1 (Organic Solvent Emission Limitations)  
The source is not subject to the requirements of 326 IAC 8-6-1, since the potential emissions of VOC are less than 100 tons per year.
- (j) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (k) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

#### **State Rule Applicability - Individual Facilities**

##### Fryers

###### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the four (4) fryers shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

##### Muffin Ovens

###### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the two (2) muffin ovens shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

##### Boilers

###### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(b)(3), the particulate matter emissions from each of the two (2) boilers shall not exceed one-hundredth (0.01) grain per dry standard cubic foot (dscf) each.

##### Heaters

###### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the space heaters shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

##### Pan Washers

###### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the two (2) pan washers shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

### Package Printers

#### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from each of the package printers shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

#### 326 IAC 8-2-5 (Paper Coating Operations)

The inkjet printers are not subject to the requirements of 326 IAC 8-2-5, since they are not web coating or saturation processes.

#### 326 IAC 8-5-5 (Graphic Arts Operations)

The package printers are not subject to the requirements of 326 IAC 8-5-5 because the printers are not packaging rotogravure, publishing rotogravure or flexographic printing facilities and each of the package printers has the potential to emit VOC less than one hundred (100) tons per year.

### Storage Tanks

#### 326 IAC 8-9 (Volatile Organic Liquid Vessels)

The storage tanks are not subject to the requirements of 326 IAC 8-9 (Volatile Organic Liquid Vessels) because the source is not located in Clark, Floyd, Lake, or Porter County.

### Ingredient Storage and Conveying

#### 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Pursuant to 326 IAC 6.5-1-2(a), the particulate matter emissions from the muffin flour silo receiving, muffin flour excess returned, granulated sugar silo receiving, granulated sugar sifter to grinder bin, granulated sugar sifter into use bin, and granulated sugar return to use bin, shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)) each.

In order to comply with 326 IAC 6-3-2, the dust collectors for particulate control shall be in operation and control emissions from the muffin flour silo, granulated sugar silo, and granulated sugar return to use bin facilities are in operation.

### Gluing Operation

#### 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations)

The gluing units are not subject to the requirements of 326 IAC 8-2-9 (Miscellaneous Metal and Plastic Parts Coating Operations) because these facilities do not apply surface coatings to metal parts and products.

<b>Conclusion and Recommendation</b>
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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 August 15, 2013. Additional information was received on August 22, 2013, September 25, 2013, September 26, 2013 and October 1, 2013.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. R097-33526-00170. The staff recommends to the Commissioner that this Registration be approved.

<b>IDEM Contact</b>
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- (a) Questions regarding this proposed permit can be directed to Tamera Wessel 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) 834-8530 or toll free at 1-800-451-6027 extension 4-8530.
- (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](http://www.in.gov/idem)

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only (Muffin Ovens)**

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**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamara Wessel  
**Date:** May 6, 2013

Maximum Heat Input Capacity per Muffin Line (MMBtu/hr)	Potential Throughput (MMcf/yr)
3.00 Muffin Line 1	25.76
6.00 Muffin Line 2	51.53
	1020

	Pollutant						
Emission Factor (lb/MMcf)	PM*	PM <sub>10</sub> *	direct PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emissions (tons/yr)							
Muffin Line 1	0.02	0.10	0.10	0.01	1.29	0.07	1.08
Muffin Line 2	0.05	0.20	0.20	0.02	2.58	0.14	2.16
<b>Total</b>	<b>0.07</b>	<b>0.29</b>	<b>0.29</b>	<b>0.02</b>	<b>3.86</b>	<b>0.21</b>	<b>3.25</b>

\* PM emission factor is filterable PM only. PM<sub>10</sub> emission factor is filterable and condensable PM<sub>10</sub> combined.  
PM<sub>2.5</sub> emission factor is filterable and condensable PM<sub>2.5</sub> combined.  
\*\* Emission factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> 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/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr ÷ HHV (MMBtu/MMscf)  
Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton

**HAPs Calculations**

	HAPs - Organics					
Emission Factor (lb/MMcf)	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics Per Unit
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emissions (tons/yr)						
Muffin Line 1	2.71E-05	1.55E-05	9.66E-04	2.32E-02	4.38E-05	2.42E-02
Muffin Line 2	5.41E-05	3.09E-05	1.93E-03	4.64E-02	8.76E-05	4.85E-02

	HAPs - Metals					
Emission Factor (lb/MMcf)	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals Per Unit
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emissions (tons/yr)						
Muffin Line 1	6.441E-06	1.417E-05	1.804E-05	4.895E-06	2.705E-05	7.06E-05
Muffin Line 2	1.288E-05	2.834E-05	3.607E-05	9.791E-06	5.411E-05	1.41E-04
						<b>Total HAPs Line 1</b>
						<b>Total HAPs Line 2</b>
						<b>Worst HAP Line 1</b>
						<b>Worst HAP Line 2</b>

**Methodology:**

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		
Emission Factor (lb/MMcf)	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
	120,000	2.3	2.2
Potential Emissions (tons/yr)			
Muffin Line 1	1,546	2.96E-02	2.83E-02
Muffin Line 2	3,092	5.93E-02	5.67E-02
Summed Potential Emissions (tons/yr)			
Muffin Line 1		1,546	
Muffin Line 2		3,092	
CO <sub>2</sub> e Total (tons/yr)			
Muffin Line 1		1,555	
Muffin Line 2		3,111	

**Notes:**

The N<sub>2</sub>O emission factor for uncontrolled is 2.2. The N<sub>2</sub>O emission factor for low NO<sub>x</sub> burner is 0.64.  
The 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.  
The Greenhouse Warming Potentials (GWP) are from Table A-1 of 40 CFR Part 98 Subpart A.

**Methodology:**

Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton  
CO<sub>2</sub>e (tons/yr) = [ CO<sub>2</sub> Potential Emissions (tons/yr) \* CO<sub>2</sub> GWP (1) ] + [ CH<sub>4</sub> Potential Emissions (tons/yr) \* CH<sub>4</sub> GWP (21) ] +  
[ N<sub>2</sub>O Potential Emissions (tons/yr) \* N<sub>2</sub>O GWP (310) ]

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only (Fryers)**

TSD AP A Page 2 of 10

**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Pit ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

Maximum Heat Input Capacity per Fryer (MMBtu/hr)		Potential Throughput (MMcf/yr)
0.76	Fryer 1	HHV
0.84	Fryer 2	MMBtu
1.000	Fryer 3	MMscf
1.000	Fryer 4	1020

Emission Factor (lb/MMcf)	Pollutant						
	PM*	PM <sub>10</sub> *	direct PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emissions (tons/yr)							
Fryer 1	0.01	0.02	0.02	0.00	0.33	0.02	0.27
Fryer 2	0.01	0.03	0.03	0.00	0.36	0.02	0.30
Fryer 3	0.01	0.03	0.03	0.00	0.43	0.02	0.36
Fryer 4	0.01	0.03	0.03	0.00	0.43	0.02	0.36
<b>Total</b>	<b>0.03</b>	<b>0.12</b>	<b>0.12</b>	<b>0.01</b>	<b>1.55</b>	<b>0.09</b>	<b>1.30</b>

\* PM emission factor is filterable PM only. PM<sub>10</sub> emission factor is filterable and condensable PM<sub>10</sub> combined.

PM<sub>2.5</sub> emission factor is filterable and condensable PM<sub>2.5</sub> combined.

\*\* Emission factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> 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/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr ÷ HHV (MMBtu/MMscf)

Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton

**HAPs Emissions**

Emission Factor (lb/MMcf)	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics Per Unit
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emissions (tons/yr)						
Fryer 1	6.85E-06	3.92E-06	2.45E-04	5.87E-03	1.11E-05	6.14E-03
Fryer 2	7.57E-06	4.33E-06	2.71E-04	6.49E-03	1.23E-05	6.79E-03
Fryer 3	9.02E-06	5.15E-06	3.22E-04	7.73E-03	1.46E-05	8.08E-03
Fryer 4	9.02E-06	5.15E-06	3.22E-04	7.73E-03	1.46E-05	8.08E-03

Emission Factor (lb/MMcf)	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals Per Unit
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emissions (tons/yr)						
Fryer 1	1.632E-06	3.590E-06	4.569E-06	1.240E-06	6.853E-06	1.79E-05
Fryer 2	1.804E-06	3.968E-06	5.050E-06	1.371E-06	7.575E-06	1.98E-05
Fryer 3	2.147E-06	4.724E-06	6.012E-06	1.632E-06	9.018E-06	2.35E-05
Fryer 4	2.147E-06	4.724E-06	6.012E-06	1.632E-06	9.018E-06	2.35E-05

Total HAPs Fryer 1

6.16E-03

Total HAPs Fryer 2

6.81E-03

Total HAPs Fryer 3

8.10E-03

Total HAPs Fryer 4

8.10E-03

**Methodology:**

Methodology is the same as previous page.

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 Emissions**

Emission Factor (lb/MMcf)	Greenhouse Gas		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
	120,000	2.3	2.2
Potential Emissions (tons/yr)			
Fryer 1	392	7.51E-03	7.18E-03
Fryer 2	433	8.30E-03	7.94E-03
Fryer 3	515	9.88E-03	9.45E-03
Fryer 4	515	9.88E-03	9.45E-03
Summed Potential Emissions (tons/yr)			
Fryer 1	392		
Fryer 2	433		
Fryer 3	515		
Fryer 4	515		
CO <sub>2</sub> e Total (tons/yr)			
Fryer 1	394		
Fryer 2	435		
Fryer 3	518		
Fryer 4	518		

**Notes:**

The N<sub>2</sub>O emission factor for uncontrolled is 2.2. The N<sub>2</sub>O emission factor for low NO<sub>x</sub> burner is 0.64.

The 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.

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

**Methodology:**

Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton

CO<sub>2</sub>e (tons/yr) = [ CO<sub>2</sub> Potential Emissions (tons/yr) \* CO<sub>2</sub> GWP (1) ] + [ CH<sub>4</sub> Potential Emissions (tons/yr) \* CH<sub>4</sub> GWP (21) ] + [ N<sub>2</sub>O Potential Emissions (tons/yr) \* N<sub>2</sub>O GWP (310) ]



**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only (Miscellaneous)**

TSD App A Page 3 of 10

**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

Maximum Heat Input Capacity (MMBtu/hr)	
Boiler #1	1.50
Boiler #2	1.50
Pan Washer 1	3.80
Pan Washer 2	3.80
All space heaters	5.00
	15.60

HHV	Potential
MMBtu	Throughput
MMscf	(MMcf/yr)
1020	133.98

Emission Factor (lb/MMcf)	Pollutant						
	PM*	PM <sub>10</sub> *	direct PM <sub>2.5</sub> *	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emissions (tons/yr)	0.13	0.51	0.51	0.04	6.70	0.37	5.63

\* PM emission factor is filterable PM only. PM<sub>10</sub> emission factor is filterable and condensable PM<sub>10</sub> combined.

PM<sub>2.5</sub> emission factor is filterable and condensable PM<sub>2.5</sub> combined.

\*\* Emission factors for NO<sub>x</sub>: Uncontrolled = 100, Low NO<sub>x</sub> Burner = 50, Low NO<sub>x</sub> 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/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr ÷ HHV (MMBtu/MMscf)

Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton

**HAPs Emissions**

Emission Factor (lb/MMcf)	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emissions (tons/yr)	1.41E-04	8.04E-05	5.02E-03	0.12	2.28E-04

Emission Factor (lb/MMcf)	HAPs - Metals				
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emissions (tons/yr)	3.349E-05	7.369E-05	9.378E-05	2.546E-05	1.407E-04

**TOTAL HAPs** 0.13

**Methodology:**

Methodology is the same as page 7.

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 Emissions**

Emission Factor (lb/MMcf)	Greenhouse Gas		
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
	120,000	2.3	2.2
Potential Emissions (tons/yr)	8,039	1.54E-01	1.47E-01
Summed Potential Emissions (tons/yr)	8,039		
CO <sub>2</sub> e Total (tons/yr)	8,088		

**Notes:**

The N<sub>2</sub>O emission factor for uncontrolled is 2.2. The N<sub>2</sub>O emission factor for low NO<sub>x</sub> burner is 0.64.

The 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.

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

**Methodology:**

Potential Emissions (tons/yr) = Potential Throughput (MMcf/yr) x Emission Factor (lb/MMcf) ÷ 2,000 lb/ton

CO<sub>2</sub>e (tons/yr) = [ CO<sub>2</sub> Potential Emissions (tons/yr) \* CO<sub>2</sub> GWP (1) ] + [ CH<sub>4</sub> Potential Emissions (tons/yr) \* CH<sub>4</sub> GWP (21) ] +  
[ N<sub>2</sub>O Potential Emissions (tons/yr) \* N<sub>2</sub>O GWP (310) ]

**Appendix A: Emissions Calculations**  
**Particulate and VOC Emissions**  
**Frying**

TSD App A Page 4 of 10

**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

Fryer	Maximum Capacity lb/hr	Maximum Throughput tons/yr	Emission Factors				Potential Emissions			
			PM lb/ton	PM <sub>10</sub> lb/ton	PM <sub>2.5</sub> lb/ton	VOC lb/ton	PM tons/yr	PM <sub>10</sub> tons/yr	PM <sub>2.5</sub> tons/yr	VOC tons/yr
Fryer 1	2,000	8,760.00	0.56	0.80	0.80	0.085	2.45	3.50	3.50	0.37
Fryer 2	2,000	8,760.00	0.56	0.80	0.80	0.085	2.45	3.50	3.50	0.37
Fryer 3	2,800	12,264.00	0.56	0.80	0.80	0.085	3.43	4.91	4.91	0.52
Fryer 4	2,800	12,264.00	0.56	0.80	0.80	0.085	3.43	4.91	4.91	0.52

**Notes:**

Emission factors are based on AP-42, Ch. 9.13, Tables 9.13.3-2 for continuous deep fat fryer - other snack chips.  
PM<sub>2.5</sub> has been assumed to be equal to PM<sub>10</sub>.

**Methodology:**

Maximum Throughput (tons/yr) = Maximum Capacity (lb/hr) \* 8760 hr/yr ÷ 2000 lb/ton  
Potential Emissions (tons/yr) = Maximum Throughput (tons/yr) \* Emission Factor (lb/ton) ÷ 2000 lb/ton

**Appendix A: Emissions Calculations**  
**Emissions from Dry Ingredient Storage and Conveying**

TSD App A Page 5 of 10

**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 N. Shadeland Ave., Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

The uncontrolled potential emissions of particulate from dry ingredient storage and conveying before controls are estimated using AP-42 Table 11.12-2 emission factors for the uncontrolled truck unloading of cement supplement to elevated storage silo (pneumatic).

AP-42 Table 11.12-2 reference	Process	Emission Factor (lbs/ton)*	
		PM	PM10/PM2.5
3-05-011-17	Pneumatic	3.14	1.10
3-05-011-10	Remove from bins to mixer	1.118	0.3100
3-05-011-05	Transfer (hand adds)	0.0021	0.00099

Filter Unit Control Efficiency	
PM	PM10/PM2.5
99.7%	99.7%

**Potential to Emit (PTE) of Particulate (PM and PM10)**

Emission Unit	Potential Ingredient Throughput (lbs/hr)**	Potential Ingredient Throughput (tons/hr)**	Uncontrolled PTE of PM (lbs/hour)	Uncontrolled PTE of PM10/PM2.5 (lbs/hour)	Uncontrolled PTE of PM (tons/yr)	Uncontrolled PTE of PM10/PM2.5 (tons/yr)	Control Device (Yes/No)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10/PM2.5 (tons/yr)
Muffin Flour Silo Receiving	7600.0	3.80	11.93	4.18	52.26	18.31	Yes	0.16	0.05
***Muffin Flour - Excess Returned	172.6	0.09	0.27	0.09	1.19	0.42	Yes	3.6E-03	1.2E-03
Donut Flour - Hand adds	9600.0	4.80	0.01	4.75E-03	0.04	0.02	No	0.04	0.02
Granulated Sugar Silo Receiving	4688.0	2.34	7.36	2.58	32.24	11.29	Yes	0.10	0.03
Sugar Grinder Bin	1992.0	1.00	3.13	1.10	13.70	4.80	Yes	0.04	0.01
Powdered Sugar- Hand Adds	3600.0	1.80	3.78E-03	1.78E-03	0.02	7.81E-03	No	0.02	7.8E-03
Granulated Sugar Use Bins	2696.0	1.35	4.23	1.48	18.54	6.49	Yes	0.06	0.02
Granulated Draw Bins - Remove from bin	2696.0	1.35	1.51	0.42	6.60	1.83	No	6.60	1.83
Bag Sugars in Toppings - Hand Adds	1110.0	0.56	1.17E-03	5.49E-04	5.10E-03	2.41E-03	No	5.1E-03	2.4E-03
Hand Added Powders in Toppings	112.0	0.06	1.18E-04	5.54E-05	5.15E-04	2.43E-04	No	5.2E-04	2.4E-04
<b>Totals</b>					<b>124.6</b>	<b>43.2</b>		<b>7.02</b>	<b>1.99</b>

**Methodology**

\* Emission Factors from AP-42 Table 11.12-2 for uncontrolled truck unloading of cement supplement to elevated storage silo (pneumatic) 3-05-011-17, Truck loading (truck mix) 3-05-011-10 and sand transfer 3-05-011-05.

\*\* Each dry ingredient storage silo has a maximum batch filling rate of 300 lbs/minute, based on truck unloading of 45,000 lb of muffin flour or sugar over 150 minutes, which gives a maximum ingredient throughput of 18,000 lbs/hr for the silos. Pneumatic transfers from the silos for processing was provided by the source. Flour is transferred to multiple locations at a mass rate of 1.48 tons per hour while granular sugar is transferred at a mass rate of 2.34 tons per hour. Potential throughput of each ingredient (muffin flour and sugar) is bottlenecked by the amount that is required to run all the production lines simultaneously.

\*\*\* Excess material (muffin flour or sugar) in one of the pneumatic transfer lines (assumed to be less than 10% of the potential throughput) is recycled back to another location.

Maximum Hourly Throughput (tons/hr) = [Maximum Hourly Throughput (lbs/hr)] / [2000 lbs/ton]

Uncontrolled PTE of PM or PM10 (lbs/hour) = [Maximum Hourly Throughput (tons/hr)] \* [Emission Factor (lbs/ton)]

Uncontrolled PTE of PM or PM10 (tons/year) = [Uncontrolled PTE of PM or PM10 (lbs/hour)] \* [8760 hours/year] / [2000 lbs/ton]

Controlled PTE of PM or PM10 (tons/year) = [Uncontrolled PTE of PM or PM10 (tons/year)] \* [1 - Control Efficiency]

**Attachment A: Emission Calculations  
Inkjet Printers**

TSD App A Page 6 of 10

**Company Name:** Hostess Brands, LLC  
**Source Address:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

**Ink Data**

	Density	VOC Content		HAP Content		
	(lbs/gal)	(% by wt)	(lb/gal)	(% by wt)	(lb/gal)	Single HAP
Coder No. 1 Ink #v410-D	7.5	67.0%	5.03	0.0%	0.00	
Coder No. 1 Make Up & Cleaner #v705-D	6.7	100.0%	6.70	0.0%	0.00	
Coder No. 2 Ink #16-8200Q	7.50	71.0%	5.33	35.0%	2.63	Methanol
Coder No. 2 Make Up & Cleaner #16-8205Q	6.7	100.0%	6.70	50.0%	3.35	Methanol

**Emissions from Label Printing**

	Usage		VOC Emissions		HAP Emissions		
	(gal/hr)	(gal/yr)	(lb/hr)	(tons/yr)	(lb/hr)	(tons/yr)	
Coder No. 1 Ink #v410-D	0.0062	54.3	0.031	0.14	0.000	0.00	
Coder No. 1 Make Up & Cleaner #v705-D	0.0078	68.3	0.052	0.23	0.000	0.00	
Coder No. 2 Ink #16-8200Q	0.0212	185.7	0.113	0.49	0.056	0.24	
Coder No. 2 Make Up & Cleaner #16-8205Q	0.0267	233.9	0.179	0.78	0.089	0.39	
<b>Total</b>			0.375	1.64		0.64	Methanol

VOC Content (lbs/gal) = Density (lbs/gal) \* VOC % by wt.

HAP Content (lbs/gal) = Density (lbs/gal) \* HAP % by wt.

Usage (gal/yr) = Usage (gal/hr) \* 8,760 (hrs/year)

VOC Emissions in tons/yr = [(Usage in gal/yr) \* (VOC Content in lb/gal)]/2000

HAP Emissions in tons/yr = [(Usage in gal/yr) \* (HAP Content in lb/gal)]/2000

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

TSD App A Page 7 of 10

**Company Name: Hostess Brands, LLC  
Address City IN Zip: 2929 N. Shadeland Ave., Indianapolis, IN 46219  
Permit Number: R097-33526-00170  
Plt ID: 097-00170  
Reviewer: Tamera Wessel  
Date: May 6, 2013**

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour )	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
<b>Maintenance Shop</b>																
<sup>1</sup> water based	7.90	100%	100.00%	0%	0.00%	N/A	0.0166	1.00	0.00	0.00	0.000	0.00	0.000	N/A	N/A	100%
<b>Wrapping Operation</b>																
<sup>1</sup> water based	7.90	100%	100.00%	0%	0.00%	N/A	0.0166	1.00	0.00	0.00	0.000	0.00	0.000	N/A	N/A	100%
<b>Glues</b>																
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00040	210	7.76	2.33	0.196	4.69	0.857	N/A	N/A	100%
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00040	210	7.76	2.33	0.196	4.69	0.857	N/A	N/A	100%
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00030	350	7.76	2.33	0.244	5.87	1.071	N/A	N/A	100%
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00030	350	7.76	2.33	0.244	5.87	1.071	N/A	N/A	100%
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00010	3600	7.76	2.33	0.838	20.11	3.671	N/A	N/A	100%
<sup>2</sup> HB Fuller advantra PHC 9250 PE	7.76	100.00%	70.00%	30.00%	70.00%	N/A	0.00010	3600	7.76	2.33	0.838	20.11	3.671	N/A	N/A	100%
						-										
3Pan Greaser	9.34	100.00%	N/A	N/A	0.00%	100%	0.0017	6720	2.00E-05	2.00E-05	0.000	0.01	0.001	N/A	N/A	100%

PM Control Efficiency: 0.00%

<b>State Potential Emissions</b>	<b>Add worst case coating to all solvents</b>	<b>Total Uncontrolled PTE of VOC</b>	2.556	61.35	<b>11.197</b>	N/A
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**METHODOLOGY**

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) \* Weight % Organics) / (1-Volume % water)

Pounds of VOC per Gallon Coating = (Density (lb/gal) \* Weight % Organics)

Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) \* Gal of Material (gal/unit) \* Maximum (units/hr) \* (8760 hr/yr) \* (1 ton/2000 lbs)

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

Pounds VOC per Gallon of Solids = (Density (lbs/gal) \* Weight % organics) / (Volume % solids)

Total = Worst Coating + Sum of all solvents used

Note 1: MSDS sheet for parts washer gives a VOC content of 0 g/l

Note 2: The MSDS sheet for HB Fuller advantra PHC 9250 PE gave a waxes, paraffin and hydrocarbon percent range of 10 to 30%. 30% was used to be extra conservative for organics.

Note 3: The pan greaser is solid, but is mixed with soya oil. Therefore the estimated emission factor of 0.02lbs VOC per 1,000 gallons for soya oil was used. Emission factor is from WebFIRE (Petroleum and Solvent Evaporation - Petroleum Storage at Refineries - Fixed Roof Tanks - Distillate Fuel #2: Working Loss) SCC 40301021

**Appendix A: Emissions Calculations**  
**Storage Tanks VOC Emissions**

TSD App A Page 8 of 10

**Company Name:** Hostess Brands, LLC  
**Address City IN Zip:** 2929 N. Shadeland Ave., Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Plt ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

Tank Description	Tank Capacity (gallons)	PTE Annual Throughput (gallons/year)	<sup>1</sup> Emission Factor (lbs/1,000 gallon)	VOC PTE (lbs/year)	VOC PTE (tpy)
Palm Oil 1 (previously Fry Fat 1)	4,000	42,000	0.02	12.76	<b>0.01</b>
Palm Oil 2 ( previously Fry Fat 2)	4,000	42,000	0.02		
Canola Oil	4,000	188,000	0.02		
Canola Oil	4,000	188,000	0.02		
Used Palm Oil	1,500	78,000	0.02		
Margarine	5,700	50,000	0.02		
Soy Oil	5,700	50,000	0.02		
<b>Estimated maximum annual throughput given by source = 638,000 gallons</b>					

**Methodology:**

Note 1: Emission factor is from WebFIRE (Petroleum and Solvent Evaporation - Petroleum Storage at Refineries - Fixed Roof Tanks - Distillate Fuel #2: Working Loss) SCC 40301021

VOC PTE (lbs/year) = Estimated Maximum Annual Throughput (gallons/year) \* Emission Factor (lbs/1,000

VOC PTE (tons/year) = VOC PTE (lbs/year) \* 1 ton/2,000 lbs

**Appendix A: Emission Calculations**  
**Fugitive Dust Emissions - Paved Roads**

TSD App A Page 9 of 10

**Company Name:** Hostess Brands, LLC  
**Source Address:** 2929 North Shadeland, Indianapolis, IN 46219  
**Permit Number:** R097-33526-00170  
**Pit ID:** 097-00170  
**Reviewer:** Tamera Wessel  
**Date:** May 6, 2013

**Paved Roads at Industrial Site**

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) Ingredients	3.0	1.0	3.0	38.0	114.0	300	0.057	0.2	62.2
Vehicle (leaving plant) Ingredients	3.0	1.0	3.0	18.0	54.0	300	0.057	0.2	62.2
Vehicle (entering plant) Finished Goods	15.0	1.0	15.0	15.0	225.0	300	0.057	0.9	311.1
Vehicle (leaving plant) Finished Goods	15.0	1.0	15.0	20.0	300.0	300	0.057	0.9	311.1
<b>Totals</b>			<b>36.0</b>		<b>693.0</b>			<b>2.0</b>	<b>746.6</b>

Average Vehicle Weight Per Trip =  $\frac{19.3}{0.06}$  tons/trip  
Average Miles Per Trip =  $\frac{0.06}{19.3}$  miles/trip

Unmitigated Emission Factor,  $E_f = [k * (sL)^{0.91} * (W)^{1.02}]$  (Equation 1 from AP-42 13.2.1)

where  $k = \begin{matrix} \text{PM} & \text{PM}_{10} & \text{PM}_{2.5} \\ 0.011 & 0.0022 & 0.00054 \end{matrix}$  lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)  
 $W = 19.3$  tons = average vehicle weight (provided by source)  
 $sL = 9.7$  g/m<sup>2</sup> = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor,  $E_{ext} = E * [1 - (p/4N)]$  (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor,  $E_{ext} = \frac{E_f * [1 - (p/4N)]}{N}$   
where  $p = \frac{125}{365}$  days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)  
 $N = 365$  days per year

Unmitigated Emission Factor,  $E_f = \begin{matrix} \text{PM} & \text{PM}_{10} & \text{PM}_{2.5} \\ 1.776 & 0.355 & 0.0872 \end{matrix}$  lb/mile  
Mitigated Emission Factor,  $E_{ext} = \begin{matrix} \text{PM} & \text{PM}_{10} & \text{PM}_{2.5} \\ 1.624 & 0.325 & 0.0797 \end{matrix}$  lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM <sub>10</sub> (tons/yr)	Unmitigated PTE of PM <sub>2.5</sub> (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM <sub>10</sub> (tons/yr)	Mitigated PTE of PM <sub>2.5</sub> (tons/yr)
Vehicle (entering plant) Ingredients	0.06	0.01	0.00	0.05	0.01	0.00
Vehicle (leaving plant) Ingredients	0.06	0.01	0.00	0.05	0.01	0.00
Vehicle (entering plant) Finished Goods	0.28	0.06	0.01	0.25	0.05	0.01
Vehicle (leaving plant) Finished Goods	0.28	0.06	0.01	0.25	0.05	0.01
<b>Totals</b>	<b>0.66</b>	<b>0.13</b>	<b>0.03</b>	<b>0.61</b>	<b>0.12</b>	<b>0.03</b>

**Methodology**

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] \* [Maximum trips per day (trip/day)]  
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]  
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] \* [Maximum one-way distance (mi/trip)]  
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]  
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]  
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Unmitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] \* [Mitigated Emission Factor (lb/mile)] \* (ton/2000 lbs)  
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] \* [1 - Dust Control Efficiency]

**Abbreviations**

PM = Particulate Matter  
PM<sub>10</sub> = Particulate Matter (<10 um)  
PM<sub>2.5</sub> = Particulate Matter (<2.5 um)  
PTE = Potential to Emit

Appendix A: SUMMARY OF EMISSIONS

TSD App A Page 10 of 10

Company Name: Hostess Brands, LLC  
 Address City IN Zip: 2929 North Shadeland, Indianapolis, IN 46219  
 Permit Number: R097-33526-00170  
 Plt ID: 097-00170  
 Reviewer: Tamera Wessel  
 Date: May 6, 2013

Emission Unit		PM	PM10	PM2.5	SO2	NOx	VOC	CO	Greenhouse Gases	Single HAP	Combined HAP's
Muffin Oven # 1	Natural Gas Combustion	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02 Hexane	0.02
Muffin Oven # 2	Natural Gas Combustion	0.05	0.20	0.20	0.02	2.58	0.14	2.16	3,111	0.05 Hexane	0.05
Fryer # 1	Frying	2.45	3.50	3.50	-	-	0.37	-	-	-	-
	Natural Gas Combustion	0.01	0.02	0.02	1.96E-03	0.33	0.02	0.27	394	0.01 Hexane	0.01
Fryer # 2	Frying	2.45	3.50	3.50	2.16E-03	-	0.37	-	-	-	-
	Natural Gas Combustion	0.01	0.03	0.03	2.16E-03	0.36	0.02	0.30	435	0.01 Hexane	0.01
Fryer # 3	Frying	4.91	4.91	4.91	2.58E-03	-	0.52	-	-	-	-
	Natural Gas Combustion	0.01	0.03	0.03	2.58E-03	0.43	0.02	0.36	518	0.01 Hexane	0.01
Fryer # 4	Frying	4.91	4.91	4.91	2.58E-03	-	0.52	-	-	-	-
	Natural Gas Combustion	0.01	0.03	0.03	2.58E-03	0.43	0.02	0.36	518	0.01 Hexane	0.01
Natural Gas Combustion (Misc.)	-	0.13	0.51	0.51	0.04	6.70	0.37	5.63	8,088	0.12 Hexane	0.13
Ingredient Storage & Conveying *	-	7.02	1.99	1.99	-	-	-	-	-	-	-
Printing	-	-	-	-	-	-	1.64	-	-	0.64 Methanol	0.64
Glues	-	-	-	-	-	-	11.20	-	-	-	-
Storage Tanks	-	-	-	-	-	-	0.01	-	-	-	-
Paved Road Fugitives	-	0.61	0.12	0.03	-	-	-	-	-	-	-
<b>Total</b>	<b>-</b>	<b>22.57</b>	<b>19.85</b>	<b>19.75</b>	<b>0.08</b>	<b>12.11</b>	<b>15.30</b>	<b>10.17</b>	<b>14,620</b>	<b>0.64 Methanol</b>	<b>0.86</b>

Note:

\*Includes 38 transfer point emission control devices determined to be integral to the system. PM/PM10/PM2.5 emissions represent value after control. All pneumatically transferred ingredients baghouse catch reused.





## 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: John Grauel  
Hostess Brands, LLC  
1 East Armour Boulevard  
Kansas City, MO 64111

DATE: November 19, 2013

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

SUBJECT: Final Decision  
Registration - Transition from FESOP  
097 - 33526 - 00170

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:  
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](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 6/13/2013

# Mail Code 61-53

IDEM Staff	LPOGOST 11/19/2013 Hostess Brands, LLC 097 - 33526 - 00170 final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING	
Name and address of Sender	 Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail:  <b>CERTIFICATE OF MAILING ONLY</b>		

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2		Matt Mosier Office of Sustainability City-County Bldg/200 E Washington St. Rm# 2460 Indianapolis IN 46204 (Local Official)									
3		Marion County Health Department 3838 N, Rural St Indianapolis IN 46205-2930 (Health Department)									
4		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 (Local Official)									
5		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 (Local Official)									
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