INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: December 26, 2007

RE: FlexForm Technologies, LLC / 039-25532-00516

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

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

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 from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER-AM.dot12/3/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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100 North Senate Avenue
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December 26, 2007

Doug Evans
FlexForm Technologies, LLC
4955 Beck Drive
Elkhart, Indiana 46516

Re: Exempt Construction and Operation Status,
039-25532-00516

Dear Mr. Evans:

The application from FlexForm Technologies, LLC, received on November 13, 2007 has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following stationary non-woven mat production source located at 4955 Beck Drive, Elkhart, Indiana 46516, is classified as exempt from air pollution requirements:

(a) A non-woven mat production plant, constructed in 1999 and modified in 2005, which has a maximum usage rate of 3,837 pounds of fibers per hour and using filters system which is considered an integral part of the process for particulate control. The production process involves blending, carding, crosslapping, needle punching, cutting and trimming. It also includes one (1) natural gas-fired pre-contact oven, with a heat input of 1 million British Thermal Units per hour (MMBtu/hr) and a second contact oven, with a heat input of 1 MMBtu/hr. The mat is used for side panels in cars.

(b) One (1) non-woven mat production line, identified as no-heat production line #1, approved for construction in 2007, with a maximum usage rate of 1,100 pounds of fibers per hour, using filters system which is considered an integral part of the process for particulate control. The production process involves blending, air card fiber forming, needle punching, cutting and trimming.

The following conditions shall be applicable:

(1) 326 IAC 5-1-2 (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:

(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.

(2) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), Pursuant to 326 IAC 6-3-2:

(a) the allowable particulate emission rate from the existing non-woven mat production plant:

(i) shall not exceed 6.1 pounds per hour when operating at a maximum process weight rate of 1.82 tons per hour.
(ii) shall not exceed 0.88 pounds per hour when operating at a maximum process weight rate of 0.1 tons per hour.

(b) the allowable particulate emission rate from the new non-woven mat production line (no-heat production line #1), shall not exceed 2.75 pounds per hour when operating at a maximum process weight rate of 0.55 tons per hour.

The pounds per hour limitation was calculated using 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

The filters system is considered the integral part of the process and shall be operated at all times when the non-woven mat production lines are in operation.

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

This exemption No. 039-25532-00516 covers the entire source and supersedes the following:

(a) Exemption No. 039-10746-00516 issued on May 3, 1999
(b) Exemption No. 039-19935-00516 issued on January 26, 2005
(c) Exemption No. 039-22922-00516 issued on May 5, 2006

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.

If you have any questions on this matter, please contact Renee Traivaranon, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, at 317-234-5615 or at 1-800-451-6027 (ext 4-5615).

Sincerely,

Original document signed by

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

rt
Enclosures
cc: File - Elkhart County
Elkhart County Health Department
Air Compliance Section - Paul Karkiewicz
IDEM Northern Regional Office
Permits Administrative and Development
Billing, Licensing and Training Section – Dan Stamatkin

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	**FlexForm Technologies, LLC**
Source Location:	**4955 Beck Drive, Elkhart, Indiana 46516**
County:	**Elkhart**
SIC Code:	**2299**
Application No.:	**039-25532-00516**
Reviewer:	**Renee Traivaranon**

On November 13, 2007, the Office of Air Quality (OAQ) received an application from FlexForm Technologies, LLC relating to the construction and operation of a stationary non-woven mat production source.

Approval Emission Units and Pollution Control Equipment

The application includes information relating to the operation of the following equipment:

(a) A non-woven mat production plant, constructed in 1999 and modified in 2005, which has a maximum usage rate of 3,837 pounds of fibers per hour and using filters system which is considered an integral part of the process for particulate control. The production process involves blending, carding, crosslapping, needle punching, cutting and trimming. It also includes one (1) natural gas-fired pre-contact oven, with a heat input of 1 million British Thermal Units per hour (MMBtu/hr) and a second contact oven, with a heat input of 1 MMBtu/hr. The mat is used for side panels in cars.

New Emission Units and Pollution Control Equipment

(b) One (1) non-woven mat production line, identified as no-heat production line #1, approved for construction in 2007, with a maximum usage rate of 1,100 pounds of fibers per hour, using filters system which is considered an integral part of the process for particulate control. The production process involves blending, air card fiber forming, needle punching, cutting and trimming.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Exemption No. 039-10746-00516 issued on May 3, 1999
(b) Exemption No. 039-19935-00516 issued on January 26, 2005
(c) Exemption No. 039-22922-00516 issued on May 5, 2006

This exemption 039-25532-00516 will cover the entire source and thus supersedes these existing exemptions.

Enforcement Issues

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the application be approved as an Exemption. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on November 13, 2007.

Emission Calculations

See Appendix A of this TSD for emissions calculations (Appendix A, pages 1 through 3).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as Athe maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.@

Pollutant	Potential To Emit (tons/year)
PM	1.55
PM-10	1.55
SO_2	0.01
NO_x	0.90
VOC	1.03
CO	0.70
Single HAP	--
Combined HAPs	--

Note: -- = Negligilble

(a) The potential to emit (as defined in 326 IAC 2-1.1-1 (16)) of particulate matter (PM and PM_{10}) is less than five (5) tons per year, and the potential to emit of each other criteria pollutant is less than ten (10) tons per year for the entire source. Therefore, the source is not subject to the provisions of 326 IAC 2-5.1 (Registration). An examption will be issued.

(b) The PTE (as defined in 326 IAC 2-1.1-1(16)) 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, the source is not subject to the provisions of 326 IAC 2-7.

County Attainment Status

The source is located in Elkhart County.

Pollutant	Status
PM2.5	Attainment
PM10	Attainment
SO_2	Attainment
NO_x	Attainment
8-Hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Elkhart as attainment for the 8-hour ozone standard.

(b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx emissions are considered when evaluating the rule applicability relating to ozone. Elkhart County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions 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) Elkhart County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions.

(d) Elkhart County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these 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.

(d) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

Source Status

Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	1.55
PM-10	1.55
SO_2	0.01
NO_x	0.90
VOC	1.03
CO	0.70
Single HAP	--
Combination HAPs	--

Note: -- = Negligible

This source is not a major stationary source under 326 IAC 2-2 (PSD) because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the PTE of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit for this source.

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

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is not one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1), and no attainment pollutant is emitted at a rate of 250 tons per year or greater. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since 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.

326 IAC 2-6 (Emission Reporting)

This source is located in Elkhart County, has the potential to emit of each criteria pollutant of less than hundred (100) tons per year and the potential to emit lead of less than five (5) tons per year. Therefore, the requirements of 326 IAC 2-6 do not apply.

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:

(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.

326 IAC 6-4 (Fugitive Dust Emissions)

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

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

The requirements of 326 IAC 8-1-6 are not applicable, since each of the emission units at this source does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

326 IAC 7-1.1-1 (Sulfur dioxide emission limitations: applicability)

The source is not subject to the requirements of 326 IAC 7-1.1, because the potential to emit of all emission units are less than twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide.

326 IAC 10-1 (Nitrogen Oxides Control)

The source is not subject to 326 IAC 10 (Nitrogen Oxides Control) because the source is not located in Clark or Floyd Counties.

State Rule Applicability - Individual Facilities

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

Pursuant to 326 IAC 6-3:

(a) the allowable particulate emission rate from the existing non-woven mat production plant:

(i) shall not exceed 6.1 pounds per hour when operating at a maximum process weight rate of 1.82 tons per hour.

(II) shall not exceed 0.88 pounds per hour when operating at a maximum process weight rate of 0.1 tons per hour.

(b) the allowable particulate emission rate from the new non-woven mat production line (no-heat production line #1), shall not exceed 2.75 pounds per hour when operating at a maximum process weight rate of 0.55 tons per hour.

The pounds per hour limitations were calculated using 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

The filter system is considered an integral part of the process and shall be operated at all times when the non-woven mat production lines are in operation.

Conclusion

The operation of this source shall be subject to the conditions of the attached Exemption, No. 039-25532-00516.

Appendix A: Emissions Calculations
Mat Production Lines (Entire Source)

Company Name: Flexform Technologies, Inc.
Address City IN Zip: 4955 Beck Drive, Elkhart, IN 46516
Exemption: 039-25532-00516
Reviewer: Renee Traivaranon
Date: December 20, 2007

Original Plant	Hourly Rate lbs/Hr	% Synthetic	% Natural	% VOC	Synthetic Fiber Loss	Natural Fiber Loss	Volatile Emissions	CFM	EF (mg/m3)	PM Emissions
Maximum production	3637.0	60.0%	40.0%	0.0075%	1.0%	1.0%	0.717	60,000.0	1.0	0.58

Modification Plant	Hourly rate (kg/hr)	Hourly rate (lb/hr)	% Polymer	% Natural	% VOC	Polymer fiber loss	Natural fiber loss	Poly fiber Screening Efficiency %	Natural Blend Screening Efficiency %	Filter control %
Maximum production	90.7	200.0	50.0%	50.0%	0.0075%	1.50%	1.50%	99.7%	97.0%	98.0%

New Line (No heat line)	Hourly Rate lbs/Hr	% Synthetic	% Natural	% VOC	Synthetic Fiber Loss	Natural Fiber Loss	Volatile Emissions	CFM	EF (mg/m3)	PM Emissions
Maximum production	1100.0	50.0%	50.0%	0.0075%	1.0%	1.0%	0.181	90,000.0	1.0	0.87

Potential VOC Emissions (TPY)

Production Lines	Original	Modification	New	Total
Potential VOC Emissions (TPY)	0.717	0.077	0.181	0.98

Potential PM Emissions (TPY)

Excempion	N0. 10746	No. 19935		No. 25532	Total (T/Y)
Process	Original Plant	Pre-Filter	Post-Filter	New line	
T/Y	T/Y	T/Y	T/Y	T/Y	
Poly fiber	0.58	0.02	0.000	0.87	1.67(no-filter)
Natural fiber		0.20	0.004		1.45 (w/filter)

Summary of Potential PM Emissions of the entire mat production lines (TPY)

Original Plant
Controlled PM Emissions (TPY) 0.58

First Modified plant
Pre-Filter Potential PM Emissions (TPY) 0.22
Controlled PM Emissions (TPY) 0.004

New line (no heat line)
Controlled PM Emissions (TPY) 0.87

Compliance with 326 IAC 6-3-2 requirements

Exising non-woven mat production plant (Original plus first Modifcation)
Allowable particulate emission rate = 4.1 $P^{0.67}$= 6.34 lb/hr
Controlled PM emissions = 0.58 lb/hr

The above calculations demonstrate compliance with the allowable PM emission limit of 6.34 lb/hr for the non-woven mat production plant.

New Non-woven mat production line (no heat line)
Allowable particulate emission rate = 4.1 $P^{0.67}$= 2.75 lb/hr
Controlled PM emissions = 0.87 lb/hr

The above calculations demonstrate compliance with the allowable PM emission limit of 2.74 lb/hr for the non-woven mat production line (no heat production line.)

METHODOLOGY
Potential VOC emissions (tons per year) = Hourly rate (pounds/hr) * Weight % VOC * 8760 hours/yr * 1/2000 tons/lb
Potential emisions from the process are calculated by taking into consideration the hourly rate of the material processed, the blend of polymer vs natural fibers, the associated fiber loss rate, the screening efficiency (primary filter) and the Filter filtration efficiency. The screen efficiency is 99.7% for the poly fibers and 97% for the natural fibers (the poly fibers tend to be larger in size than the natural, therefore higher filtration efficiency). The Filter filter is 98% efficient on the particulate size that passes through the initial screening.
Potential PM emissions (tons per year) = Hourly rate (pounds/hr) * Weight % polymer/natural fiber * (1-screening efficiency)* (1-Filter control efficiency)* 8760 hours/yr * 1/2000 tons/lb

Appendix A: Emissions Calculations
Natural Gas Combustion Only

Company Name: **Flexform Technologies, Inc.**
Address City IN Zip: **4955 Beck Drive, Elkhart, IN 46516**
Permit Number: **039-25532-00516**
Reviewer: **Renee Traivaranon**
Date: **December 20, 2007**

Heat Input Capacity* MMBtu/hr	Potential Throughput MMCF/yr
2.0	17.5

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.1	0.01	0.9	0.05	0.7

*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

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

Appendix A: Emission Calculations

Company Name: **Flexform Technologies, Inc.**
Address City IN Zip: **4955 Beck Drive, Elkhart, IN 46516**
Exemption: **039-25532-00516**
Reviewer: **Renee Traivaranon**
Date: **December 20, 2007**

Controlled Potential Emissions (tons/year)

Emissions Activity for Entire Source					
Pollutant	Original Plant		First Modification	New Line (no heat line)	Total
	Mat-Plant	Nat-Gas Heater			
PM	0.58	0.10	0.004	0.87	1.55
PM10	0.58	0.10	0.004	0.87	1.55
SO2	0.00	0.01	0.00	0.00	0.01
NOx	0.00	0.90	0.00	0.00	0.90
VOC	0.72	0.05	0.08	0.18	1.03
CO	0.00	0.70	0.00	0.00	0.70
total HAPs	0.00	0.00	0.00	0.00	0.00
worst case single HAP	0.00	0.00	0.00	0.00	0.00