



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
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TO: Interested Parties / Applicant
DATE: March 1, 2005
RE: Five Star Sheets / 141-20635-00198
FROM: Paul Dubenetzky
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, Room 1049, 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.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

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Mr. Andrew Schafer
Five Star Sheets
54370 Smilax Road
New Carlisle, Indiana 46552

March 1, 2005

Re: Exempt Operation Status,
141-20635-00198

Dear Mr. Schafer:

The application from Five Star Sheets received on January 31, 2005, has been reviewed. Based on the revised emission calculations and the provisions in 326 IAC 2-1.1-3, it has been determined that the following converted paper and paperboard products manufacturing operations at 54370 Smilax Road, New Carlisle, Indiana 46552 is classified as exempt from air pollution permit requirements:

- (a) One (1) natural gas-fired boiler, identified as N.B. 8288, with a maximum heat input capacity of 14.288 MMBtu/hr and exhausting through a stack identified as S1.
- (b) One (1) corrugated paper operation
- (c) One (1) boiler pretreatment system consisting of a reverse osmosis unit.
- (d) One (1) water storage tank
- (e) One (1) scrap collector
- (f) One (1) water surge tank
- (g) One (1) corn starch mixing operation with a maximum corn starch throughput of 180 pounds per hour.
- (h) One (1) Cleaver-Brooks 500 HP natural gas-fired boiler, identified as CEW-500, constructed in December 2004 with a maximum heat input capacity of 20.9 MMBtu/hr and exhausting through one (1) stack identified as S2.

The following conditions shall be applicable:

- (a) 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 forty percent (40%) 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.

(b) Pursuant to 326 IAC 12, (40 CFR 60.40c, Subpart Dc), the owner or operator of each affected facility shall submit notification of the date of construction, anticipated startup and actual startup, as provided by 40 CFR Part 60.7. The notification shall include but not be limited to the following:

(1) The design heat input capacity of the facility and the identification of the fuels to be combusted,

The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

(c) Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) , the two boilers, identified as N.B. 8288 and CEW 500, are limited by the following equation:

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

where: Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.

Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

Therefore, the PM emissions from the two boilers identified as N.B. 8288 and CEW-500 are limited to 0.55 and 0.43 lb/mmBtu respectively.

Actual PM emissions from the two boilers, identified as N.B. 8288 and CEW-500 are less than their individual respective allowable emissions. Therefore, the two boilers, identified as N.B. 8288 and CEW-500 will comply with the requirements of 326 IAC 6-2-4.

(d) Any change or modification which may increase the potential to emit any combination of HAPs, VOC, NO_x, SO₂, PM or PM₁₀ to twenty five (25) tons per year, or a single HAP to ten (10) tons per year, from this source shall obtain approval from IDEM, OAQ prior to making the change.

This exemption is an operating approval issued to this source. The source may operate according to 326 IAC 2-1.1-3.

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.

Sincerely,

Original signed by
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

FO/EVP

cc: File – St. Joseph County
St. Joseph Health Department
Air Compliance – Rick Reynolds
Northern Regional Office
Permit Tracking
Compliance Data Section

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Exemption

Source Background and Description

Source Name: Five Star Sheets
Source Location: 54370 Smilax Road, New Carlisle, Indiana 46552
County: St. Joseph
SIC Code: 2679
Exemption No.: 141-20635-00198
Permit Reviewer: Femi Ogunsola/EVP

The Office of Air Quality (OAQ) has reviewed an application from Five Star Sheets relating to the operation of converted paper and paperboard products manufacturing operations.

History

The source has been operating under the name Midcorr Packaging, LLC as an exempt source. The source submitted an application for the addition of one (1) Cleaver-Brooks boiler rated at 20.9 MMBtu per hour. The existing source has been determined to remain exempt, pursuant to 326 IAC 2-1.1-3 (Exemptions) with the addition of the new boiler.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) natural gas-fired boiler, identified as N.B. 8288, with a maximum heat input capacity of 14.288 MMBtu/hr and exhausting through a stack identified as S1.
- (b) One (1) corrugated paper operation
- (c) One (1) boiler pretreatment system consisting of a reverse osmosis unit.
- (d) One (1) water storage tank
- (e) One (1) scrap collector
- (f) One (1) water surge tank
- (g) One (1) corn starch mixing operation with a maximum corn starch throughput of 180 pounds per hour.
- (h) One (1) Cleaver-Brooks 500 HP natural gas-fired boiler, identified as CEW-500, constructed in December 2004, with a maximum heat input capacity of 20.9 MMBtu/hr and exhausting through one (1) stack identified as S2.

Existing Approvals

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

- (a) **Exemption No. 141-13681-00198** issued on June 27, 2002.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on January 31, 2005.

Emission Calculations

See Appendix A of this document for detailed emission calculations (Pages 1 through 3 of TSD Appendix A).

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the 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/yr)
PM	0.29
PM ₁₀	1.18
SO ₂	0.09
VOC	0.84
CO	12.95
NO _x	7.71

HAP's	Potential to Emit (tons/yr)
Hexane	0.2774
Benzene	0.0003
Dichlorobenzene	0.0002
Formaldehyde	0.0116
Toluene	0.0005
Cadmium	0.0002
Chromium	0.0002
Nickel	0.0003
TOTAL	0.2907

- (a) The potential to emit of all the regulated pollutants at the source is within the exemption applicability thresholds stated in 326 IAC 2-1.1-3(e)(1). Therefore, pursuant to 326 IAC 2-1.1-3, this source will be issued an Exemption.

County Attainment Status

The source is located in St. Joseph County.

Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
1-hour Ozone	attainment
8-hour Ozone	nonattainment
CO	attainment
Lead	attainment

- (a) 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 are considered when evaluating the rule applicability relating to ozone. St. Joseph County (New Carlisle area) has been designated as nonattainment for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.
- (b) St. Joseph County has been classified as attainment or unclassifiable in Indiana for PM₁₀, SO₂, NO_x, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit 141-20635-00198, is still not subject to the Part 70 Permit requirements because the potential to emit (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 per year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

Federal Rule Applicability

- (a) The two (2) natural gas-fired boilers at this source, identified as N.B. 8288 and CEW-500 are subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc) because the boilers were constructed after June 9, 1989 and their maximum heat input capacity are greater than 10 MMBtu/hr . The owner or operator of each affected facility shall submit notification of the date of construction, anticipated startup and actual start, as provided by 40 CFR Part 60.7. The notification shall include but not be limited to the following:

- (1) The design heat input capacity of the facility and the identification of the fuels to be combusted.

The owner or operator of each affected facility shall record and maintain records of the amounts of each fuel combusted during each day.

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) included in this exemption.
- (c) This source is not subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant:
 - (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
 - (2) The unit uses a control device to achieve compliance with any such emission limitation or standard, and
 - (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal or greater than 100 percent of the amount required for a source to be classified as a major source.

For this source, no unit has potential pre-control emissions of a regulated air pollutant that are equal or greater than 100 tons per year. Therefore, 40 CFR 64 is not applicable.

State Rule Applicability - Entire Source

326 IAC 2-3 (Emission Offset)

This source, constructed in 2002 and located in St. Joseph County, a basic non attainment area, is not a major source since the potential to emit of any regulated pollutant is less than 15 tons per year. Therefore, the requirements of 326 IAC 2-3 (Emission Offset) do not apply to this source.

326 IAC 2-6 (Emission Reporting)

This source is located in St. Joseph County and the source is not required to obtain a Part 70 permit. Therefore, 326 IAC 2-6 does 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, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) 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 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of paper and paperboard products packaging manufacturing will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The two (2) natural gas fired boilers (N.B. 8288 and CEW 500) constructed in 2002 and 2004 respectively and with maximum heat input capacity of 14.288 and 20.9 MMBtu/hr respectively, are subject to the particulate matter limitations of 326 IAC 6-2. Pursuant to this rule, the boilers are limited by the following equation from 326 IAC 6-2-4:

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

where: Pt = Pounds of particulate matter emitted per million Btu (lb/mmBtu) heat input.
Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr) heat input.

For boiler N.B. 8288

Q = 14.288 MMBtu/hr, therefore,

$$Pt = \frac{1.09}{14.288^{0.26}} = 0.55 \text{ lb/mmBtu}$$

For Boiler, CEW-500

Q = 14.288 + 20.9 = 35.188 MMBtu/hr, therefore,

$$Pt = \frac{1.09}{35.188^{0.26}} = 0.43 \text{ lb/mmBtu}$$

Therefore, the PM emissions from the two (2) boilers identified as N.B. 8288 and CEW-500 are limited to 0.55 and 0.43 lb/mmBtu respectively.

Compliance calculation:

For Boiler N.B. 8288

$(0.12 \text{ tons PM/yr}) * (\text{hr}/14.288 \text{ MMBtu}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 1.92\text{E-}03 \text{ lb PM/MMBtu}$

For Boiler CEW-500

$(0.17 \text{ tons PM/yr}) * (\text{hr}/35.188 \text{ MMBtu}) * (\text{yr}/8,760 \text{ hrs}) * (2,000 \text{ lbs/ton}) = 1.10\text{E-}03 \text{ lb PM/MMBtu}$

Actual PM emissions from the two boilers, identified as N.B. 8288 and CEW-500 are less than their individual respective allowable emissions. Therefore, the two boilers identified as N.B. 8288 and CEW-500 will comply with the requirements of 326 IAC 6-2-4.

No other 326 IAC 6 rules apply

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The operation of paper and paperboard packaging products manufacturing is not subject to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) because the potential to emit VOC is less than 1 tons per year.

No other 326 IAC 8 rules apply.

Conclusion

The operation of this paper and paperboard packaging manufacturing operations shall be subject to the conditions of the attached proposed **Exemption No. 141-20635-00198**.

Appendix A: Emission Calculations

Company Name: Five Star Sheets
Address City IN Zip: 54370 Smilax Road, New Carlisle, Indiana 46552
Permit Number: 141-20635-00198
Plt ID: 141-00198
Reviewer: Femi Ogunsola/EVP
Date: February 8, 2005

Uncontrolled Potential Emissions (tons/year)			
Emissions Generating Activity			
Pollutant	Natural Gas Boiler (N.B. 8288)	Natural Gas Boiler (CEW-500)	TOTAL
PM	0.12	0.17	0.29
PM ₁₀	0.48	0.70	1.18
SO ₂	0.04	0.05	0.09
NO _x	3.13	4.58	7.71
VOC	0.34	0.50	0.84
CO	5.26	7.69	12.95
Total HAPs	0.118	0.173	0.29
Worst case single HAP	0.113	0.165	0.28
Total emissions based on rated capacity at 8,760 hours/year.			
Controlled Potential Emissions (tons/year)			
Emissions Generating Activity			
Pollutant	Natural Gas Boiler (N.B. 8288)	Natural Gas Boiler (CEW-500)	TOTAL
PM	0.12	0.17	0.29
PM ₁₀	0.48	0.70	1.18
SO ₂	0.04	0.05	0.09
NO _x	3.13	4.58	7.71
VOC	0.34	0.50	0.84
CO	5.26	7.69	12.95
Total HAPs	0.118	0.173	0.29
Worst case single HAP	0.113	0.165	0.28
Total emissions based on rated capacity at 8,760 hours/year, after control.			

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

Company Name: Five Star Sheets
Address City IN Zip: 54370 Smilax Road, New Carlisle, Indiana 46552
Permit Number: 141-20635-00198
Plt ID: 141-00198
Reviewer: Femi Ogunsola/EVP
Date: February 8, 2005

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
14.3	125.2

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	50.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.12	0.48	0.04	3.13	0.34	5.26

*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

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	0.0001	0.0001	0.0047	0.1126	0.0002

HAPs - Metals					
Emission Factor in lb/MMcf	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0000	0.0001	0.0001	0.0000	0.0001

Methodology is the same as page 1.

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

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler**

**Company Name: Five Star Sheets
Address City IN Zip: 54370 Smilax Road, New Carlisle, Indiana 46552
Permit Number: 141-20635-00198
Plt ID: 141-00198
Reviewer: Femi Ogunsola/EVP
Date: February 8, 2005**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
20.9	183.1

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	50.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.17	0.70	0.05	4.58	0.50	7.69

*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

Emission Factor in 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 Emission in tons/yr	0.0002	0.0001	0.0069	0.1648	0.0003

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	0.0000	0.0001	0.0001	0.0000	0.0002

Methodology is the same as page 1.

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