



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204  
MC 61-53  
(317) 232-8603  
(800) 451-6027  
www.IN.gov/idem

TO: Interested Parties / Applicant  
DATE: January 18, 2008  
RE: Greencastle High School / 133-23426-00042  
FROM: Matthew Stuckey, Deputy 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 1/2/08



# 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  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(317) 232-8603  
(800) 451-6027  
[www.IN.gov/idem](http://www.IN.gov/idem)

January 18, 2008

Daniel Green  
Greencastle High School  
PO Box 480  
Greencastle, IN 46135

Re: Registered Construction and Operation Status,  
R133-23426-00042

Dear Daniel Green:

The application from Greencastle High School, received on July 26, 2006, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.1, it has been determined that the following stationary high school located at 910 E Washington St., Greencastle, IN 46135 is classified as registered:

- (a) Two (2) natural gas fired boilers, with a maximum capacity of five and eight tens (5.8) mmBtu/hr each, constructed prior to 2006, with no control, and exhausting to the atmosphere.
- (b) Two (2) corn fired boilers, burning only untreated corn, with a maximum capacity of seventy-five hundredths (0.75) mmBtu/hr each, constructed after 2006, using a cyclone as control, and exhausting to the atmosphere.
- (c) Two (2) corn storage silos.

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%) 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.
- (b) 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.

- (c) 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)  
Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the two (2) natural gas fired boilers shall not exceed 0.576 lbs./mmBtu.

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the two (2) corn fired boilers shall not exceed 0.558 lbs./mmBtu.

This registration is the first approval issued to this source. The source may operate according to 326 IAC 2-5.1.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.1-2(f)(3). The annual notice shall be submitted to:

**Compliance Data Section  
Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, IN 46204**

no later than March 1 of each year, with the annual notice being submitted in the format attached.

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 Jed D. Wolkins, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-3576 or at 1-800-451-6027 (ext 43576).

Sincerely,

*Original signed by*  
Matthew Stuckey, Deputy Branch Chief  
Permits Branch  
Office of Air Quality

MS/jdw

cc: File - Putnam County  
Putnam County Health Department  
Air Compliance Section  
Permit Tracking  
Compliance Data Section  
Permits Administrative and Development  
Billing, Licensing and Training Section

<b>Registration Annual Notification</b>
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This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3).

<b>Company Name:</b>	Greencastle High School
<b>Address:</b>	910 E Washington St., Greencastle, IN46135
<b>Phone #:</b>	765-653-6749
<b>Registration #:</b>	133-23426-00042

<b>Certification by the Authorized Individual</b>
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I hereby certify that Greencastle High School is still in operation and is in compliance with the requirements of Registration R133-23426-00042.

<b>Name (typed):</b>
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<b>Title:</b>
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<b>Signature:</b>
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<b>Phone Number:</b>
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<b>Date:</b>
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## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Registration

<b>Source Description and Location</b>
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<b>Source Name:</b>	<b>Greencastle High School</b>
<b>Source Location:</b>	<b>910 E Washington St., Greencastle, IN 46135</b>
<b>County:</b>	<b>Putnam</b>
<b>SIC Code:</b>	<b>8211</b>
<b>Registration No.:</b>	<b>133-23426-00042</b>
<b>Permit Reviewer:</b>	<b>Jed D. Wolkins</b>

On July 26, 2006, the Office of Air Quality (OAQ) has received an application from Greencastle High School related to the construction and operation of two new corn fired boilers at the existing high school.

<b>Existing Approvals</b>
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There have been no previous approvals issued to this source.

<b>County Attainment Status</b>
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The source is located in Putnam County.

Pollutant	Status
PM10	attainment
PM2.5	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
8-hour Ozone	attainment
CO	attainment
Lead	attainment

(a) Ozone Standards

- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard.
- (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
- (4) 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. Putnam County has

been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM2.5**  
Putnam County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM2.5 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.
- (c) **Other Criteria Pollutants**  
Putnam County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

### **Fugitive Emissions**

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

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

The Office of Air Quality (OAQ) has reviewed an application, submitted by Greencastle High School on July 26, 2006, relating to the construction and operation of two (2) corn fired boilers.

The source consists of the following existing emission units:

- (a) Two (2) natural gas fired boilers, with a maximum capacity of five and eight tens (5.8) mmBtu/hr each, constructed prior to 2006, with no control, and exhausting to the atmosphere.

The following is a list of the new emission units and pollution control devices:

- (a) Two (2) corn fired boilers, burning only untreated corn, with a maximum capacity of seventy-five hundredths (0.75) mmBtu/hr each, constructed after 2006, using a cyclone as control, and exhausting to the atmosphere.
- (b) Two (2) corn storage silos.

### **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*	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	Total HAPs	Worst Single HAP
Two natural gas boilers	0.1	0.4	0.0	5.1	0.3	4.3	negl.	negl.
Two corn boilers	2.5**	3.5**	2.6	7.4	<0.1	2.4	0.6	0.6 (HCl)
Two corn storage silos	<0.1	<0.1	-	-	-	-	-	-
<b>Total PTE of Entire Source</b>	<b>2.6**</b>	<b>3.9**</b>	<b>2.6</b>	<b>12.5</b>	<b>0.3</b>	<b>6.7</b>	<b>0.6</b>	<b>0.6</b>

negl. = negligible  
 \* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.  
 \*\* Source did not conduct PM or PM10 testing prior to control device. The Potential to Emit PM and PM10 would be higher before the control device. However, IDEM do not believe the permitting level would change if the number included the emissions controlled by the cyclone.

- (a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of NO<sub>x</sub> is within the ranges listed in 326 IAC 2-5.1-2(a)(1). The PTE of all other regulated criteria pollutants are the ranges listed in 326 IAC 2-5.1-2(a)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.1-2 (Registrations). A Registration will be issued.
- (b) The potential to emit (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, 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.

**Federal Rule Applicability Determination**

New Source Performance Standards (NSPS)

- (a) 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 all boilers have maximum design heat input capacity of less than 10 mmBtu/hr.
- (b) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (c) 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)

- (d) 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 2-5.1-2 (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 forty percent (40%) 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 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.

- (h) 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)  
The two (2) natural gas fired boilers and the two (2) corn fired boilers are subject to 326 IAC 6-2-4. Pursuant to this rule, particulate emissions from indirect heating facilities constructed after September 21, 1983 shall be limited by the following equation:

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

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. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used. For Q less than 10 mmBtu/hr, Pt shall not exceed 0.6.

For the two (2) natural gas fired boilers, Q is 11.6 mmBtu/hr. Therefore, the PM emissions from the two (2) natural gas fired boilers shall not exceed 0.576 lbs./mmBtu. Based upon the AP-42 emission factor for natural gas, the two (2) natural gas fired boilers can comply.

For the two (2) corn fired boilers, Q is 13.1 mmBtu/hr. Therefore, the PM emissions from the two (2) corn fired boilers shall not exceed 0.558 lbs./mmBtu. Based upon the December 4, 2007 stack test, the two (2) corn fired boilers can comply at a heat input rate of 0.457 mmBtu/hr.

- (i) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Process)  
The two corn silos are exempt from this rule, pursuant to 326 IAC 6-3-1(b)(14). The potential PM emission from the silos is less than five hundred fifty-five thousandths (0.551) lbs./hr.
- (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.

### Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on July 26, 2006. Additional information was received up to January 16, 2008.

The construction and operation of this source shall be subject to the conditions of the attached proposed Registration No. 133-23426-00042. The staff recommends to the Commissioner that this Registration be approved.

### IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Jed D. Wolkins at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-3576 or toll free at 1-800-451-6027 extension 4-3576.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Source Name  
Greencastle, Indiana  
Permit Reviewer: Jed D. Wolkins

Page 6 of 6  
TSD for Registration No. 133-23426-00042

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

**Appendix A: Summary**

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

PTE Tons/yr							
PM*	PM10*	SO2	Nox	VOC	CO	HCl	Total HAPs
2.6	3.9	2.7	12.5	0.3	6.7	0.6	0.6

\*Source did not conduct PM or PM10 testing prior to control device. The Potential to Emit PM and PM10 would be higher before the control device. However, IDEM do not believe the permitting level would change if the number included the emissions controlled by the cyclone.

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

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

11.6

101.6 Note: Two natural gas fired boilers at 5.8 mmbtu/hr each

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.4	0.0	5.1	0.3	4.3

\*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

See page 3 for HAPs emissions calculations.

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

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.067E-04	6.097E-05	3.811E-03	9.145E-02	1.727E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	2.540E-05	5.589E-05	7.113E-05	1.931E-05	1.067E-04

Methodology is the same as page 2.

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  
Field Corn Combustion Only**

**Corn Boiler Industrial Boiler**

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

Draft Calcs

Heat Input Capacity  
MMBtu/hr

1.5

Note: Two corn fired boilers at 0.75 mmbtu/hr each

Emission Factor in lb/mmbtu	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
0.4	0.5	0.40	1.13	0.0020	0.37	
Potential Emission in tons/yr	2.5	3.5	2.6	7.4	0.013	2.4

\*Source did not conduct PM or PM10 testing prior to control device. The Potential to Emit PM and PM10 would be higher before the control device. However, IDEM do not believe the permitting level would change if the number included the emissions controlled by the cyclone.

**Methodology**

PM and PM10 emission factors are from December 4, 2007 stack testing at source.  
 All other emission factors are from March 6 and 7, 2007 stack testing at source.  
 Emission (tons/yr) = Throughput (MMBtu/hr) x Emission Factor (lb/Mmbtu) \* 8760 hrs/yr /2,000 lb/ton

See page 5 for HAPs emissions calculations.

**Appendix A: Emissions Calculations  
Field Corn Combustion Only**

**Corn Boiler Industrial Boiler**

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
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	HAPs			
	HCl	D/F		
Emission Factor in lb/mmbtu	8.4E-02	5.0E-11		
Potential Emission in tons/yr	5.519E-01	3.298E-10		

Methodology is the same as page 4.

**Appendix A: Emissions Calculations  
Field Corn Combustion Only**

**Corn Boiler Industrial Boiler**

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

Heat Input Capacity  
MMBtu/hr

1.5

Note: Two corn fired boilers at 0.75 mmbtu/hr each

Emission Factor in lb/mmbtu	PM* 0.382				
PM Emission Limit per 326 IAC 6-2-4 in lb/mmbtu	0.558				
Can comply?	Yes				
Controlled Emission in tons/yr	2.510				

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

**Appendix A: Emissions Calculations  
Grain Storage**

**Company Name:** Greencastle High School  
**Address City IN Zip:** 910 E Washington St., Greencastle, IN 46135  
**Permit Number:** 133-23426-00042  
**Reviewer:** Jed D. Wolkins  
**Date:** January 16, 2008

Grain	Grain Throughput (tons/hr)
Wheat / Soy	0.0
Corn	0.1
Barley	0.0
Rice	0.0
Oat	0.0

<b>Maximum Grain Received (tons of grain handled or processed per hour) =</b>	0.1
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Note: Maximum grain throughput was estimated based on maximum single boiler feed rate of 99 lb of corn per hour.

	STORAGE BIN (vent)***	
	PM	PM-10
Emission Factor in lb/ton	0.025	0.0063
Potential Emissions (tons/year)	0.011	0.003

\*\*\* The PM emission factor given for storage is from AP-42 Section 9.9.1 (03/2003).

**Methodology**

Emission factors are from AP 42 Table 9.9.1-1 Particulate Emission Factors for Grain Elevators (3/03)

Potential Emissions (ton/yr) = Throughput (ton/hr) \* Emission factor (lb/ton) \* 8760 (hours/year) / 2000 (lbs/ton)